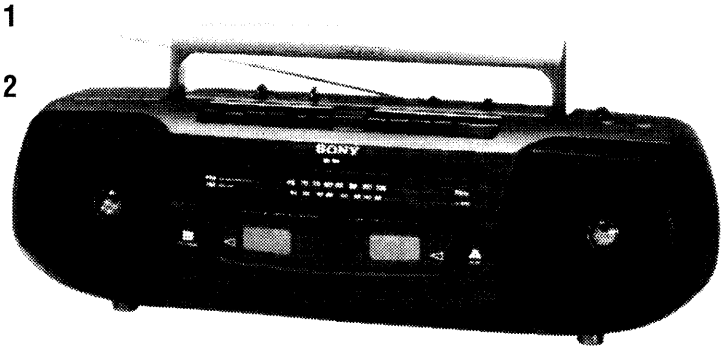
CFS-W338

SERVICE MANUAL

Ver 1.2 1999. 12
With SUPPLEMENT 1
(9-923-040-82)
With SUPPLEMENT 2
(9-923-040-85)



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SPECIFICATIONS

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MF-W338

Audio power specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
With 3.2-ohm loads, both channels driven, from 150 to 10,000 Hz; rated 1.5 W per channel minimum, RMS power, with no more than 10% total harmonic distortion in AC operation. (US model)

Other specifications

Frequency range

	FM	AM
US, Canadian, E, Australian model	87.6 – 108 MHz	530 – 1,710 kHz
AEP, UK model	87.6 – 107 MHz	531 – 1,602 kHz
Italian model	87.5 – 108 MHz	526.5 – 1,606.5 kHz

Antennas — FM: Telescopic antenna
AM: Built-in ferrite bar
Recording system — 4-track, 2-channel stereo
Frequency response — 80 - 10,000 Hz
Speakers — Full-range: 10 cm (4 inches) dia. cone type.
Output — Headphones jack (stereo minijack)
for 16 - 32 ohms impedance head - phones
Power output (Canadian, E, Australian model) — 4.6 W (2.3 W + 2.3 W)
(at 10% harmonic distrtion ; DC operation)
Maximun power Output — 5.2 W (2.6 W + 2.6 W) : AEP, UK, Italian model
Power requirements — US, Canadian, E model : AC, 120 V~ 60 Hz
AEP, Italian model : AC, 220 - 230 V ~ 50 Hz
UK model : AC, 230 - 240 V ~ 50 Hz
Australian model : AC, 240 V ~ 50 Hz
9 V DC, six size D (R20) batteries

Power consumption — AC 14 W
Battery life

Batteries	FM recording	Tape playback
Sony R20P	Approx. 12 hours	Approx. 7 hours
Sony LR20 alkaline	Approx. 24 hours	Approx. 14 hours

Dimensions — Approx. 540 x 159 x 163 mm (w/h/d)
(21 3/8 x 6 3/8 x 6 1/2 inches)
incl. projecting parts and controls, not incl. handle
Mass — Approx. 3.5 kg (7 lb 11 oz)
incl. batteries
Supplied accessory — Mains lead (1)

Design and specifications subject to change without notice.

MICROFILM

RADIO CASSETTE CORDER

SONY®

TABLE OF CONTENTS

1. GENERAL 4

2. DISASSEMBLY

2-1. Cassette Holder (A) 5
2-2. Front Panel 5
2-3. Pointer 6
2-4. MD Block 6
2-5. Tuner Board 7
2-6. Main Board 7

3. MECHANICAL ADJUSTMENTS 8

4. ELECTRICAL ADJUSTMENTS

TAPE Section 8
TUNER Section 9

5. DIAGRAMS

5-1. Circuit Boards Location 11
5-2. Printed Wiring Board — Tuner Section — 12
5-3. Schematic Diagram — Tuner Section — 13
5-4. Printed Wiring Board — Main Section — 16
5-5. Schematic Diagram — Main Section — 19

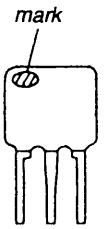
6. EXPLODED VIEWS

6-1. Rear Cabinet Section 22
6-2. Front Cabinet Section 24
6-3. Mechanism Deck Section 1 (MF-W338) 25
6-4. Mechanism Deck Section 2 (MF-W338) 26
6-5. Mechanism Deck Section 3 (MF-W338) 27

7. ELECTRICAL PARTS LIST 28

HOW TO CHANGED THE CERAMIC FILTERS

This model is used two ceramic filters of CF2 and CF3.
You must used same type of color marked ceramic filters in order to meet same specifications.
Therefore, the ceramic filter must changed two pieces together since it's supply two pieces in one package as a spare parts.



mark	center frequency
red	10.70MHz
blue	10.67MHz
orange	10.73MHz
black	10.64MHz
white	10.76MHz

SAFETY-RELATED COMPONENT WARNING !!

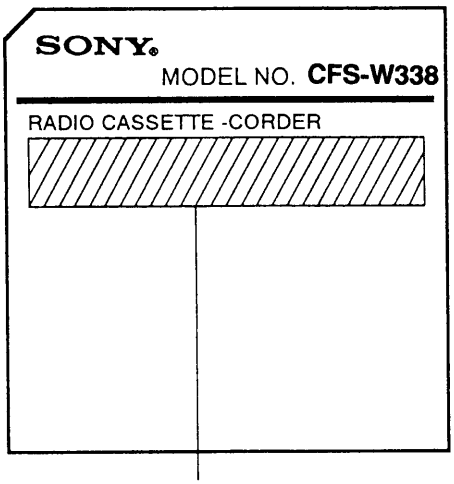
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION

— Model Number Lable —



US, Canadian, E : AC, 120 V ~ 60 Hz 14 W
AEP, Italian : AC, 220 - 230 V ~ 50 Hz 14 W
UK : AC, 240 ~ 50 Hz 14 W
Australian : AC, 230 - 240 V ~ 50 Hz 14 W

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

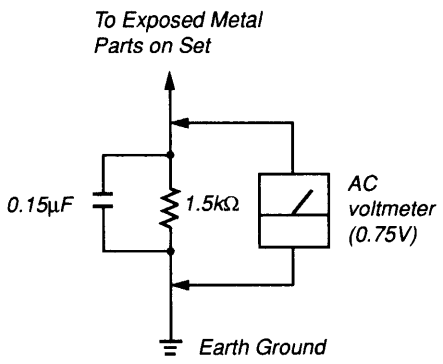
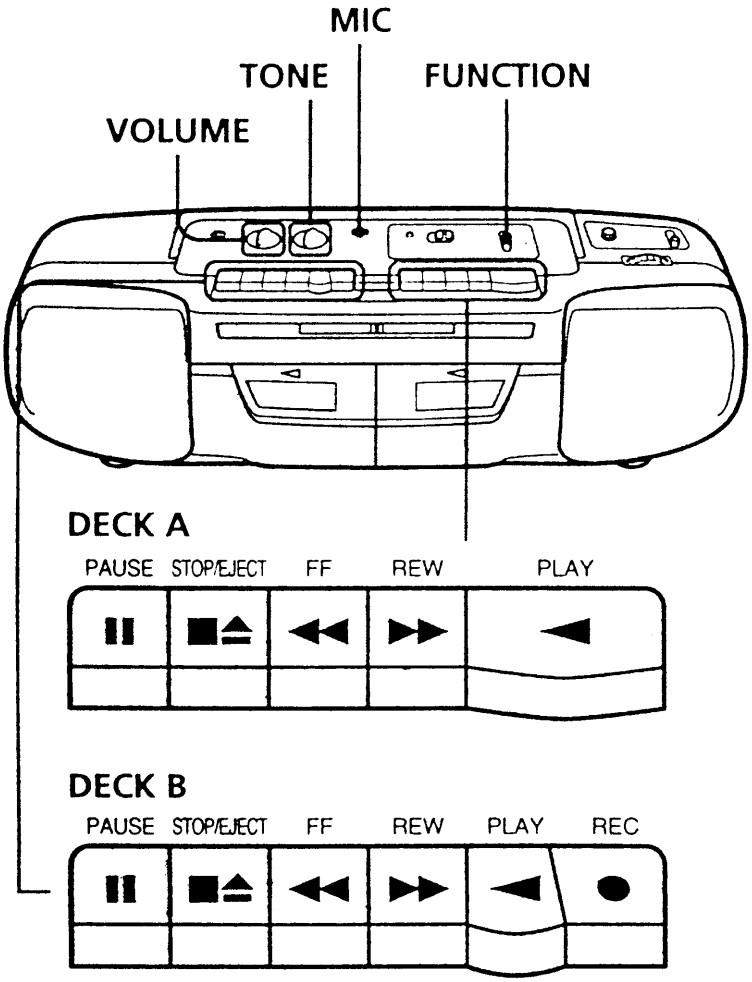


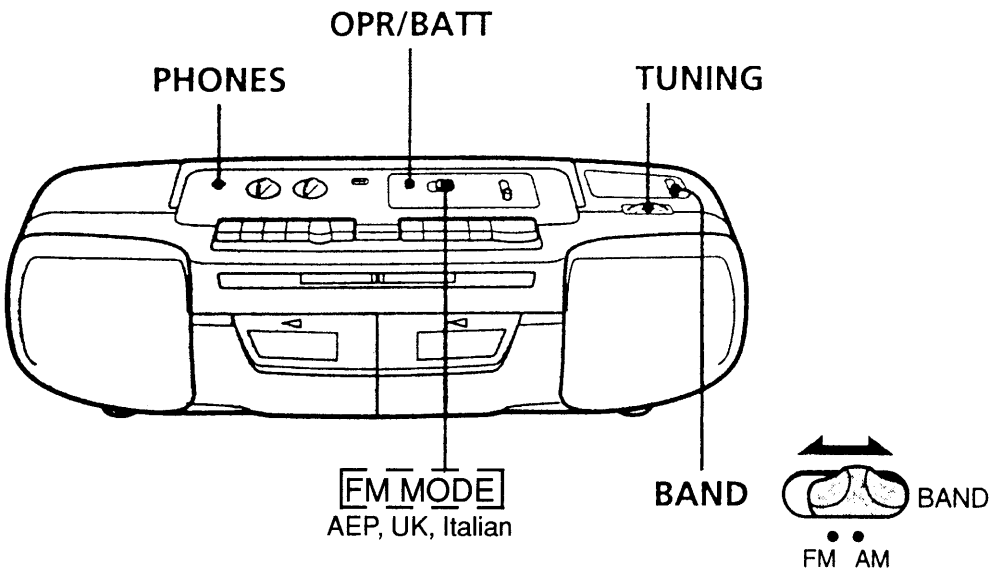
Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
GENERAL

This section is extracted from instruction manual.

LOCATION OF CONTROLS



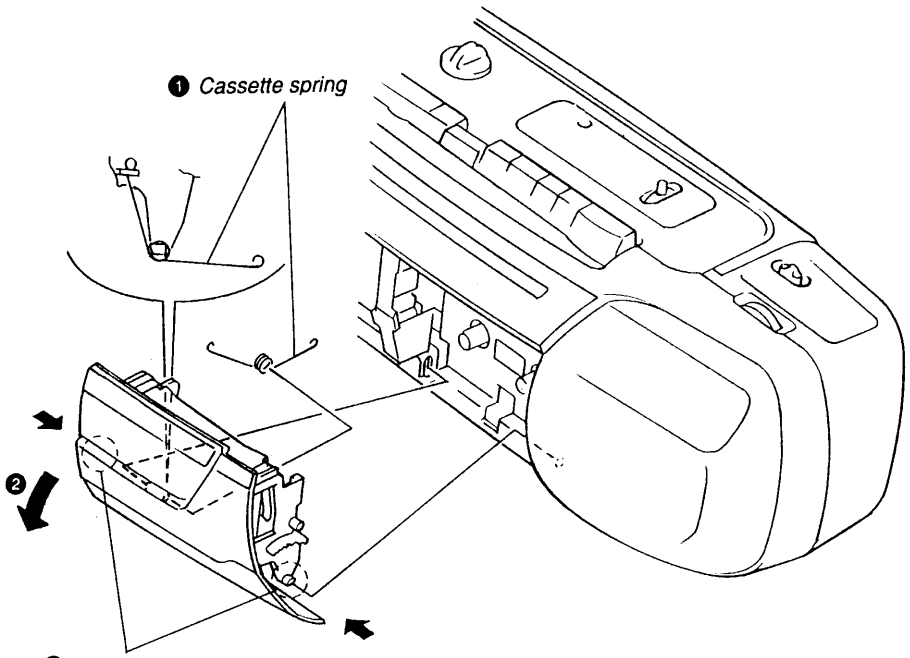


SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

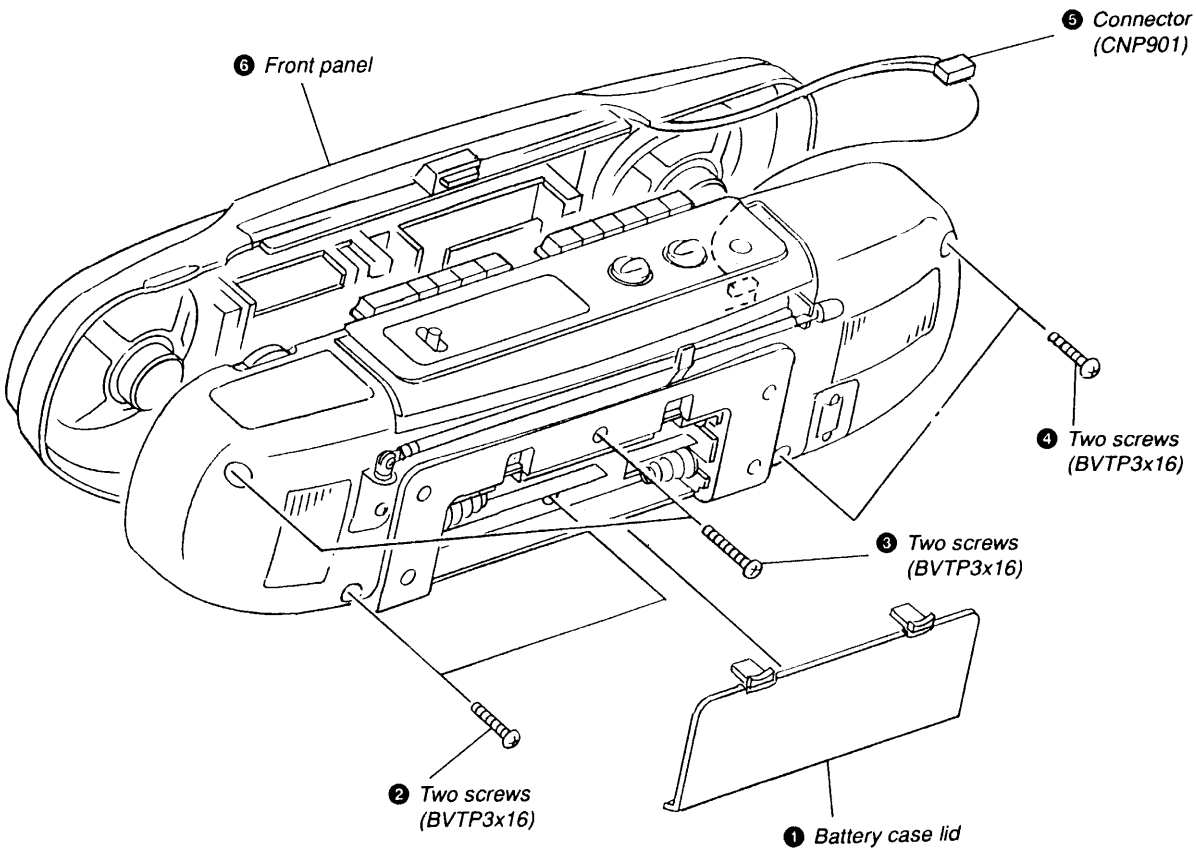
2-1. CASSETTE HOLDER (A)

Note : The cassette holder (B) also can be removed in the same way.

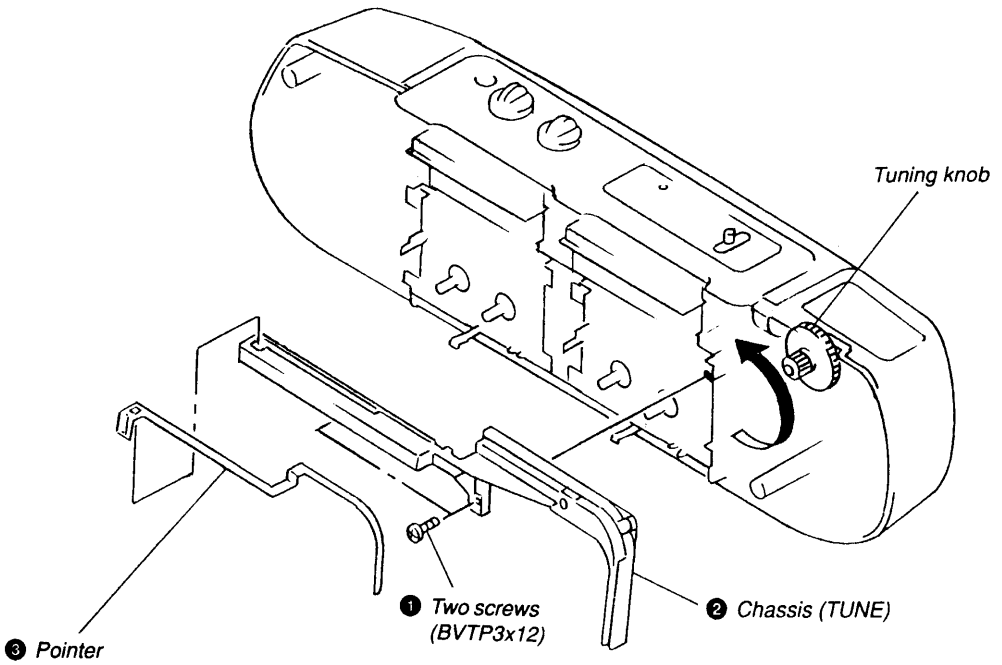


❸ *Remove the cassette holder (A) with pressing claws in the direction of arrow.*

2-2. FRONT PANEL

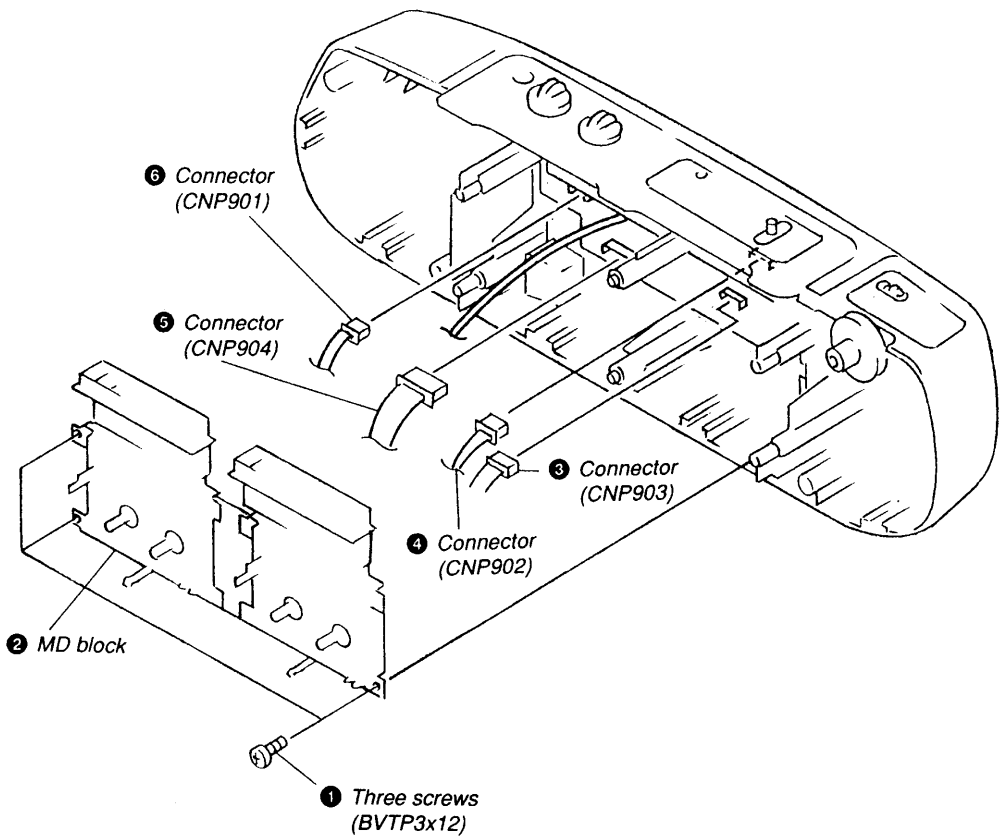


2-3. POINTER

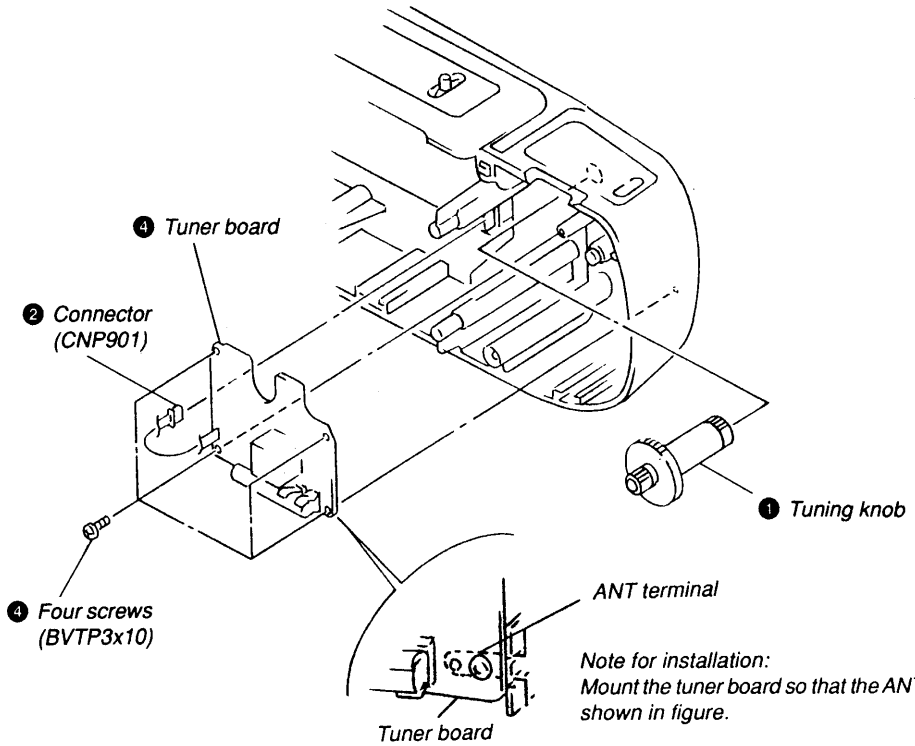


Note for installation:
After completing installation of pointer, turn the tuning knob in the direction of arrow, then check the pointer moves.

2-4. MD BLOCK

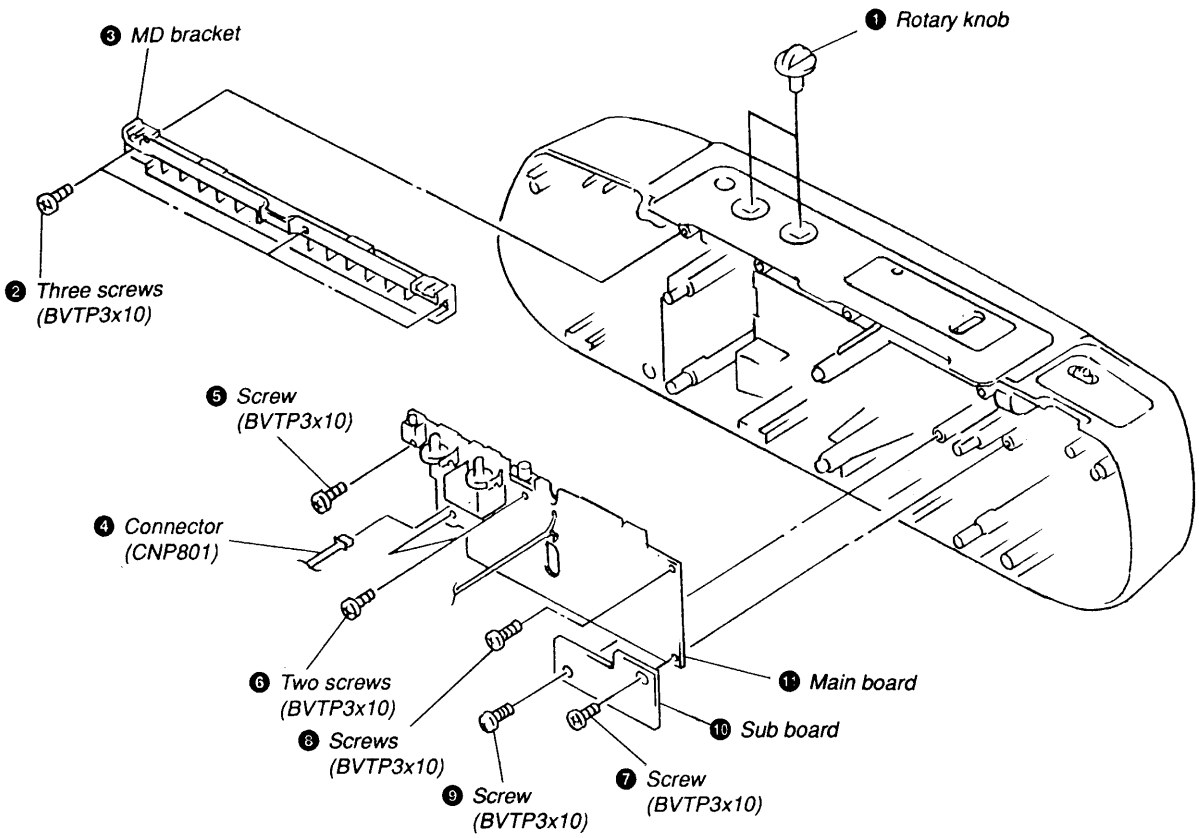


2-5. TUNER BOARD



Note for installation:
Mount the tuner board so that the ANT terminal is at the position shown in figure.

2-6. MAIN BOARD



SECTION 3
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	20 to 60 g • cm (0.28 - 0.83 oz • inch)
Forward back tension	CQ-102C	2 to 6 g • cm (0.028 - 0.083 oz • inch)
Fast Forward	CQ-201B	more than 45 g • cm (more than 0.63 oz • inch)
Rewind	CQ-201B	more than 45 g • cm (more than 0.63 oz • inch)

Tape Tension Measurement

Mode	Meter	Meter reading
Forward	CQ-403A	more than 70 g (more than 2.47 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

TAPE SECTION

1. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
2. The adjustments should be performed for both L-CH and R-CH unless otherwise indicated.

• Switche location
FUNCTION ..... TAPE
VOLUME ..... MAX
TONE ..... HIGH

Standard Output Level

	SP OUT	HEAD PHONE
Load impedance	3.2Ω	32Ω
Output level	0.775V (0 dB)	0.25V (–10 dB)

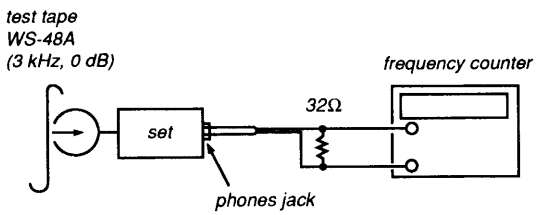
Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A063	6.3 kHz, –10 dB	Head azimuth Adjustment

0 dB = 0.775V

Tape Speed Adjustment DECK A DECK B

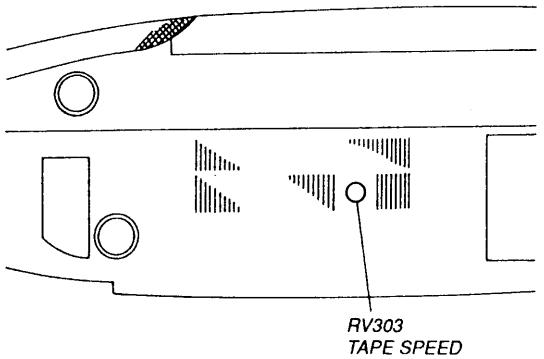
Procedure :
Mode: Playback (Normal)
High speed dubbing (High)



Speed	Deck	Adjustment point	Frequency counter
Normal	A	RV303	2,970 – 3,000Hz
	B	confirm	
High	A	confirm	5,500 – 6,500Hz
	B	confirm	

Frequency difference between the beginning and the end of the tape should be within ± 1.5%.

Adjustment Location:

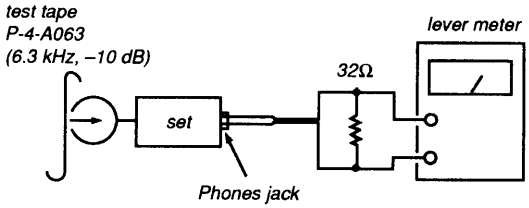


Record/Playback Head Azimuth Adjustment

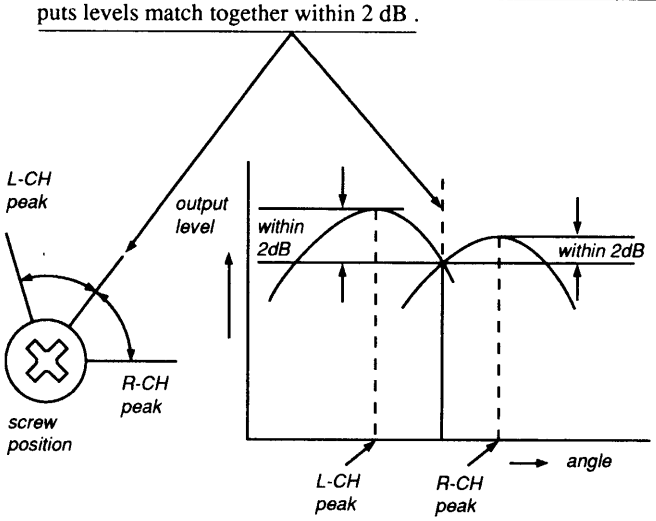
DECK A | DECK B

Procedure:

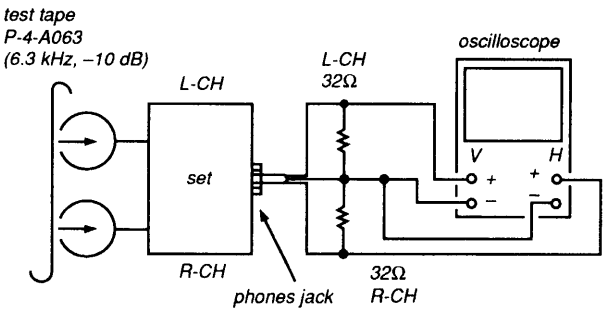
1. Mode : Playback

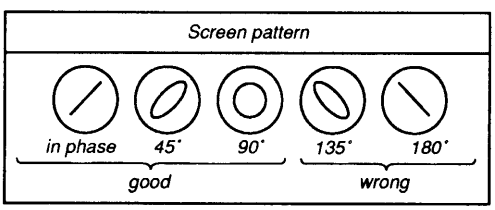


2. Turn the adjustment screw for the maximum output level.If these levels do not match, turn the adjustment screw until both of outputs levels match together within 2 dB .

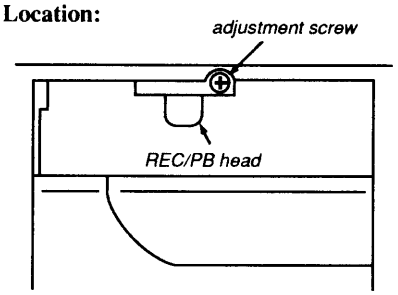


3. Phase Check
   Mode: Playback





Adjustment Location:

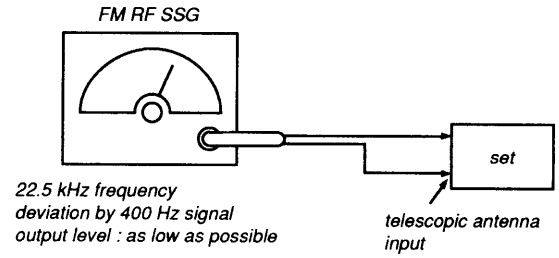


TUNER SECTION

• FM Section

Setting:

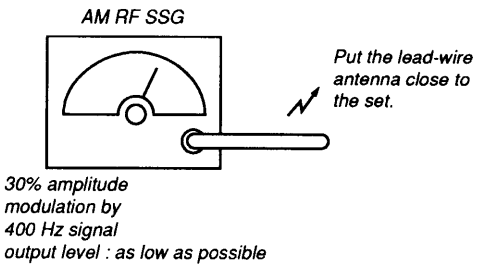
FUNCTION switch : RADIO
BAND switch : FM

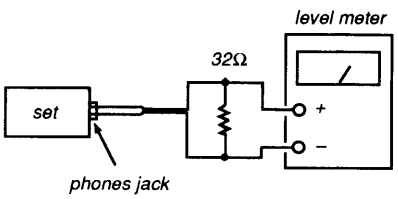


• AM Section

Setting:

FUNCTION switch : RADIO
BAND switch : AM





- Repeat the procedures is each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter	
L2	CT2
US, CND, E, AUS : 86.5 MHz AEP, UK : 87.35 MHz IT : 87.35 MHz	US, CND, E, AUS : 109.5 MHz AEP, UK : 107.8 MHz IT : 108.3 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L1	CT1
US, CND, E, AUS : 86.5 MHz AEP, UK : 87.35 MHz IT : 87.35 MHz	US, CND, E, AUS : 109.5 MHz AEP, UK : 107.8 MHz IT : 108.3 MHz

FM IF ADJUSTMENT
Adjust for a maximum reading on level meter
T2
10.7 MHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter	
L4	CT4
US, CND, E, AUS : 515 kHz AEP, UK : 515 kHz IT : 516 kHz	US, CND, E, AUS : 1,780 kHz AEP, UK : 1,680 kHz IT : 1,630 kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L3	CT3
600 kHz	1,400 kHz

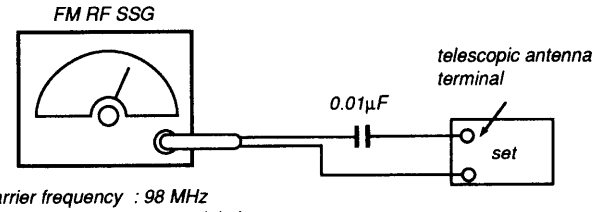
AM IF ADJUSTMENT
Adjust for a maximum reading on level meter
T1
455 kHz

VCO Adjustment

Procedure:

FUNCTION switch : RADIO

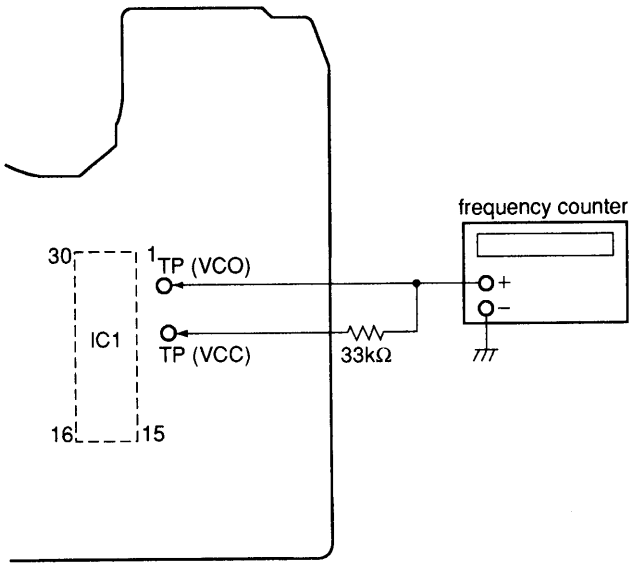
BAND switch : FM



Carrier frequency : 98 MHz
Modulation : no modulation
Output level : 0.1V (100 dB)

1. Connect the frequency counter to TP (VCO) and TP (VCC) on tuner board.
2. Turn the set to 98 MHz.
3. Adjust RT1 for 76 kHz ± 50 Hz reading on frequency counter.

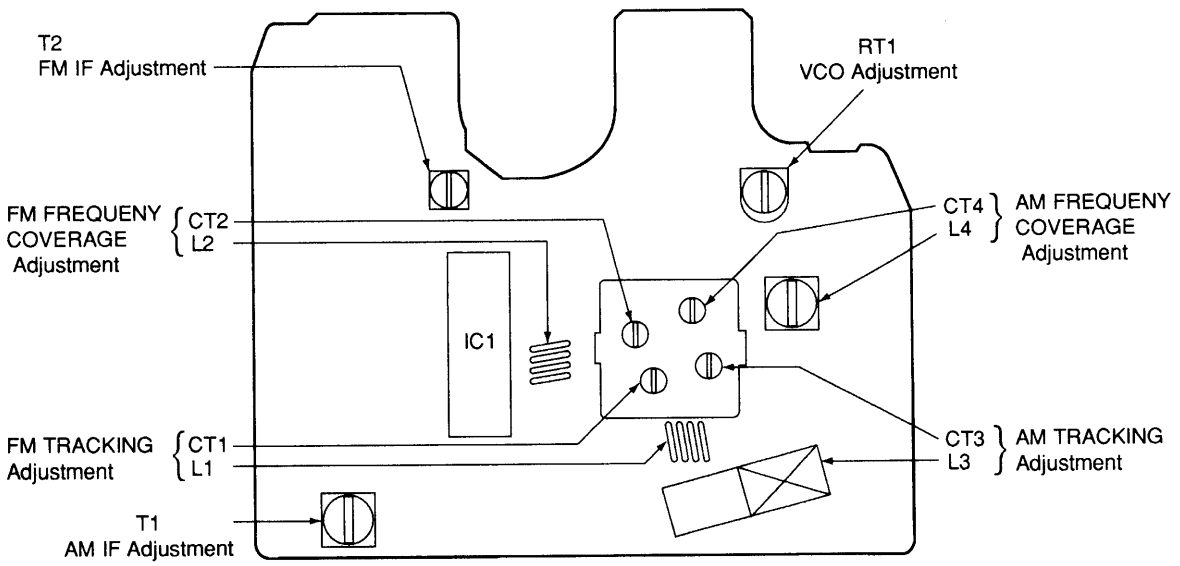
【TUNER BOARD】 (Conductor side)



• Abbreviation
CND : Canadian model
IT : Italian model
AUS : Australian model

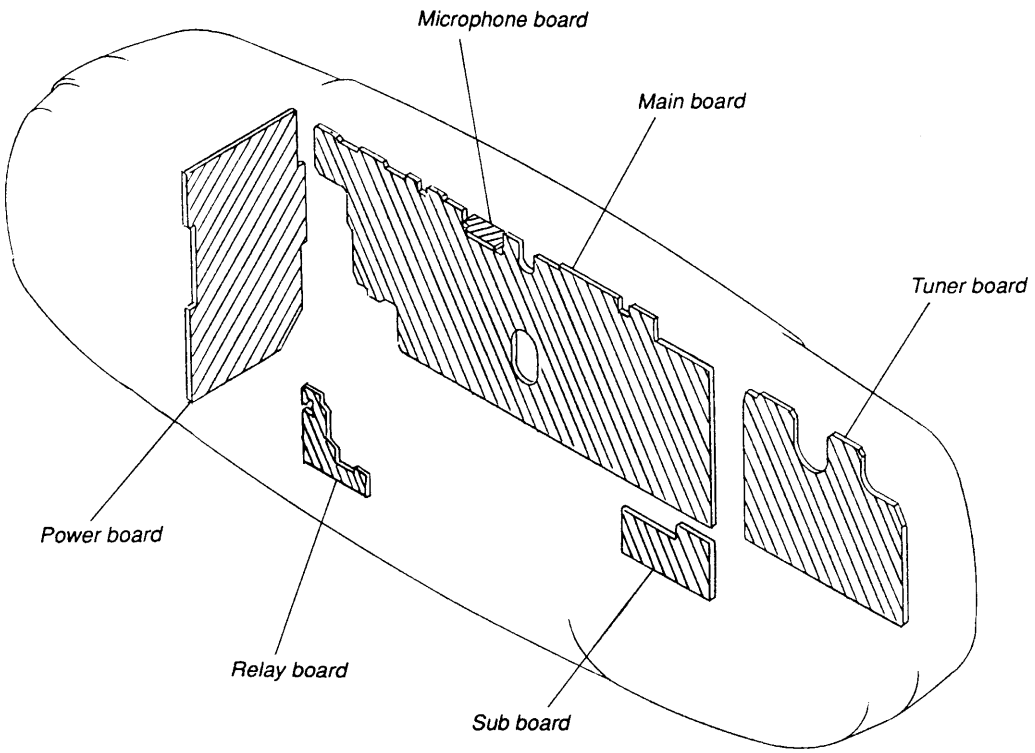
Adjustment Location :

[TUNER BOARD] (Conponent side)

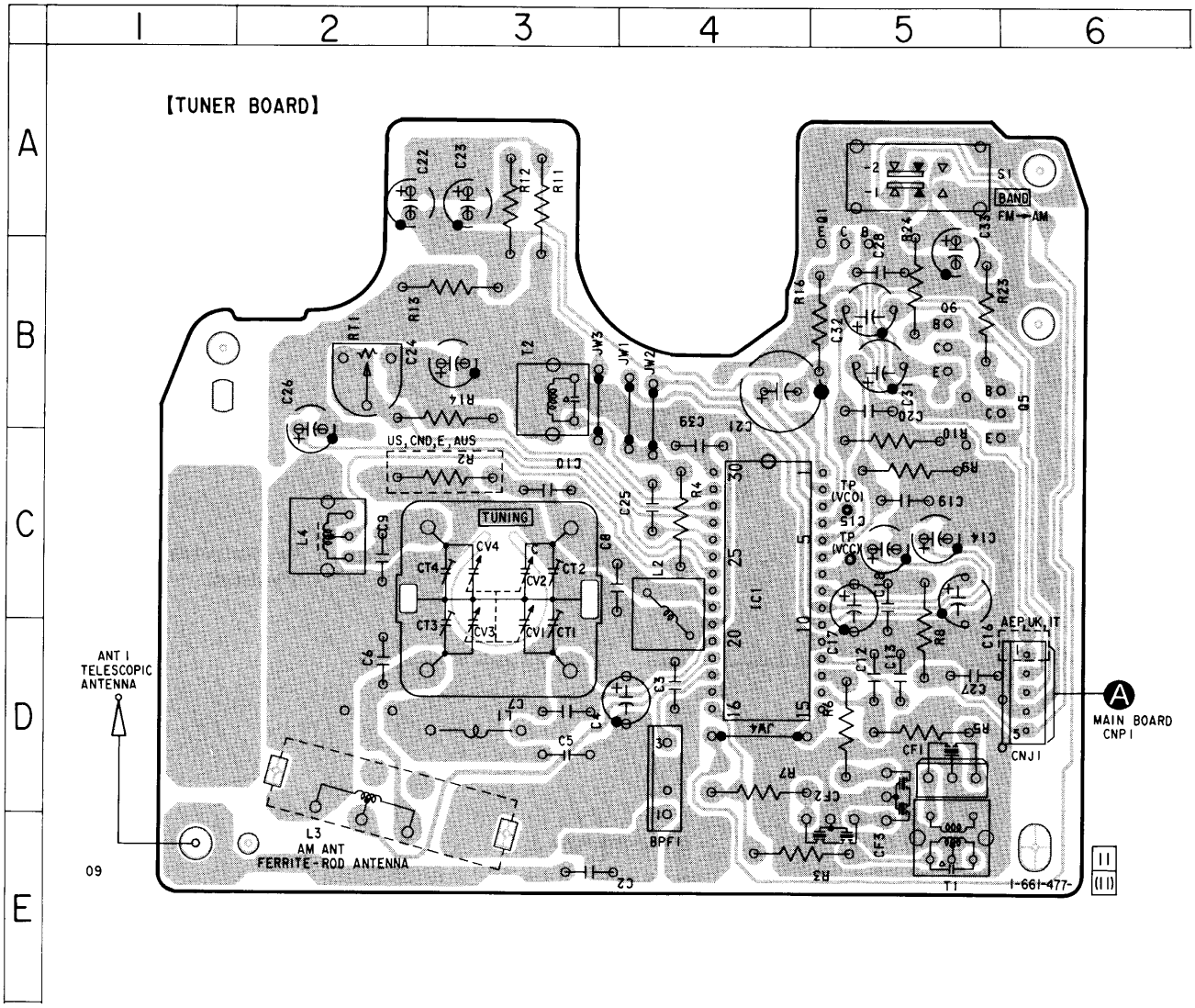


SECTION 5
DIAGRAMS

5-1. CIRCIUT BOARDS LOCATION



5-2. PRINTED WIRING BOARD — TUNER SECTION —



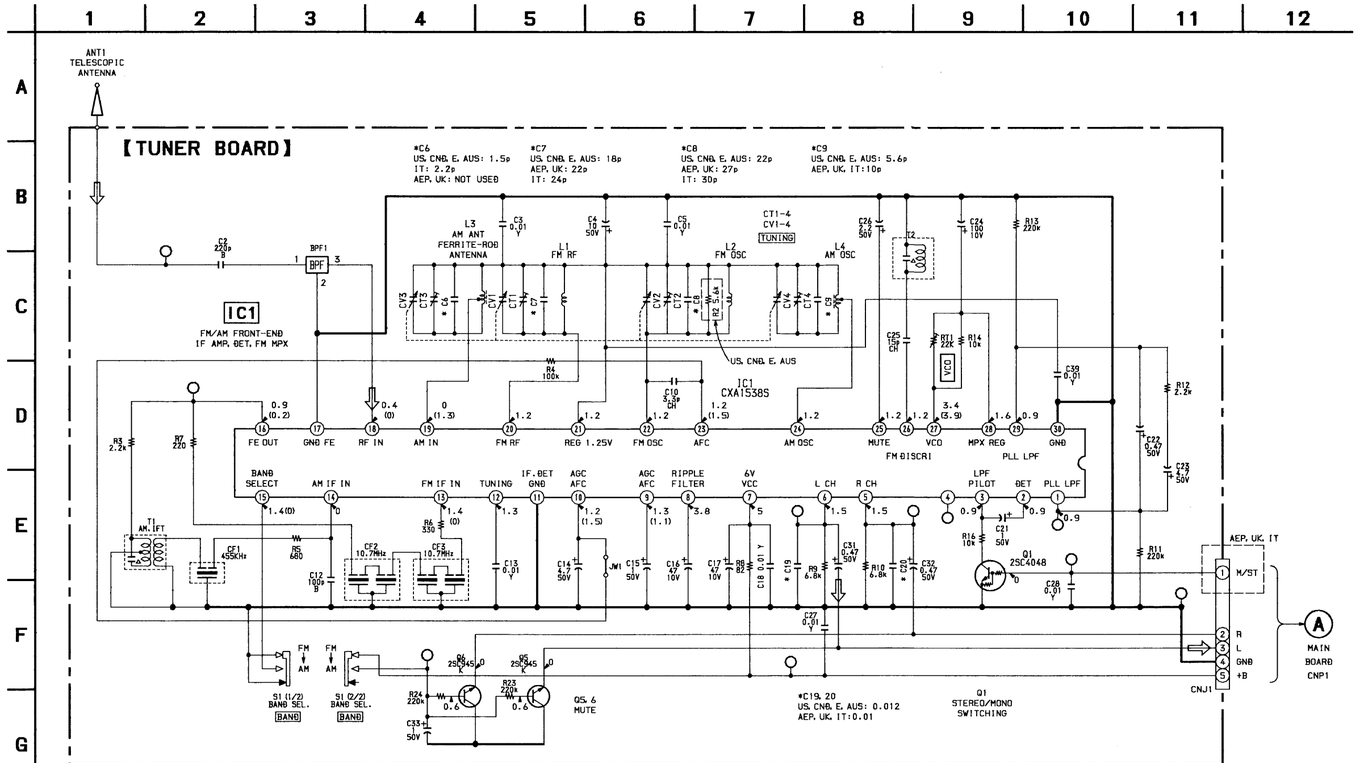
- **Semiconductor Location**

Ref. No.	Location
IC1	C-4
Q1	B-5
Q5	B-5
Q6	B-5

Note:

- ⟜ : parts extracted from the component side.
- △ : internal component.
- ▒ : Pattern from the side which enable seeing.
- Abbreviation
  CND : Canadian model.
  IT : Italian model.
  AUS : Australian model.

5-3. SCHEMATIC DIAGRAM — TUNER SECTION —

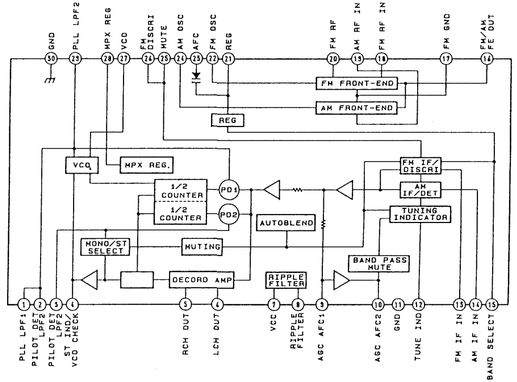


NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ :B+ Line.
- :adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
  ( ): AM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Abbreviation
  CNB: Canadian model.
  IT : Italian model.
  AUS: Australian model.
- Signal path.
  :FM

• IC Block Diagram

IC1 CXA1538S



5-4. PRINTED WIRING BOARD — MAIN SECTION —

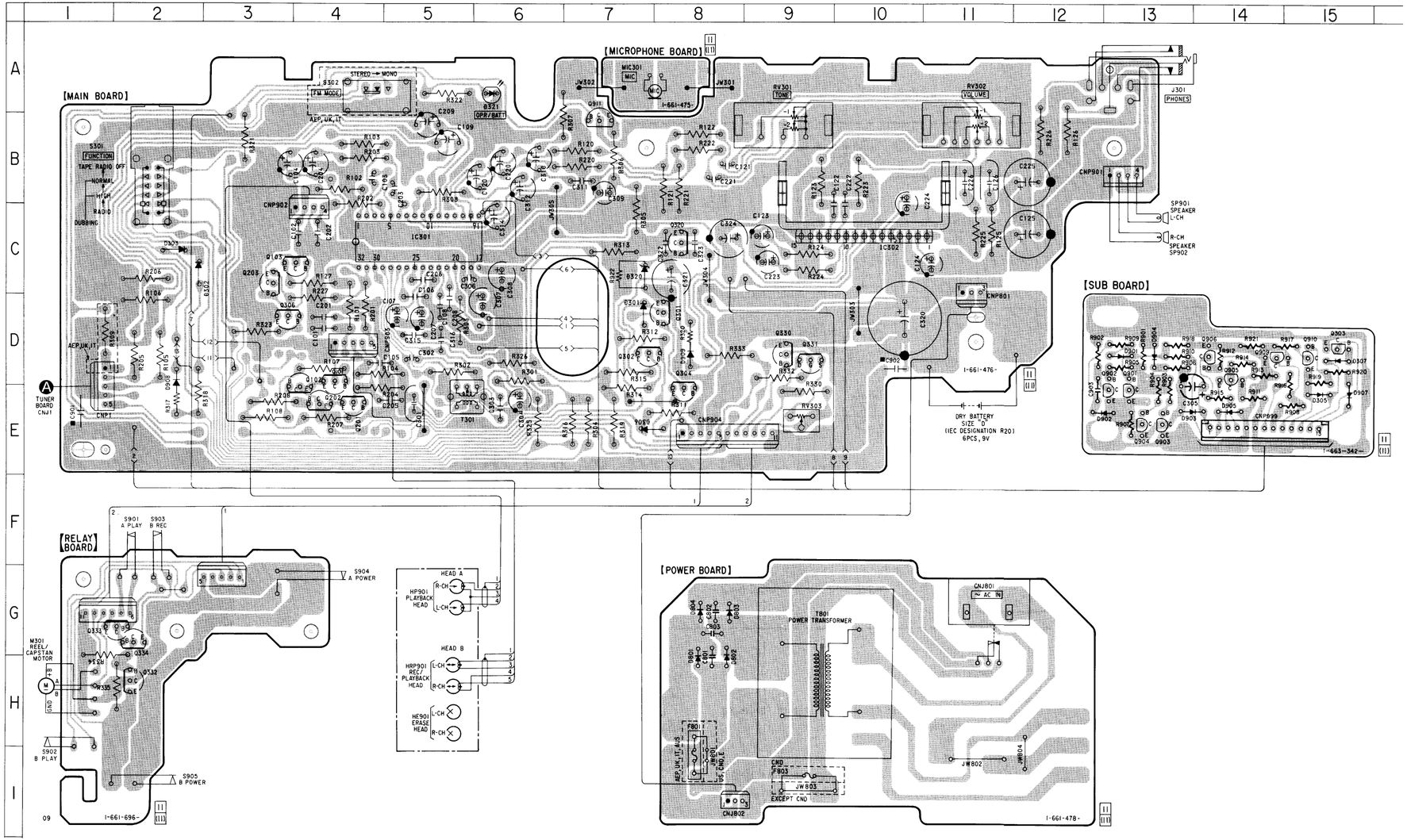
• See page 11 for Circuit Boards Location.

• **Semiconductor Location**

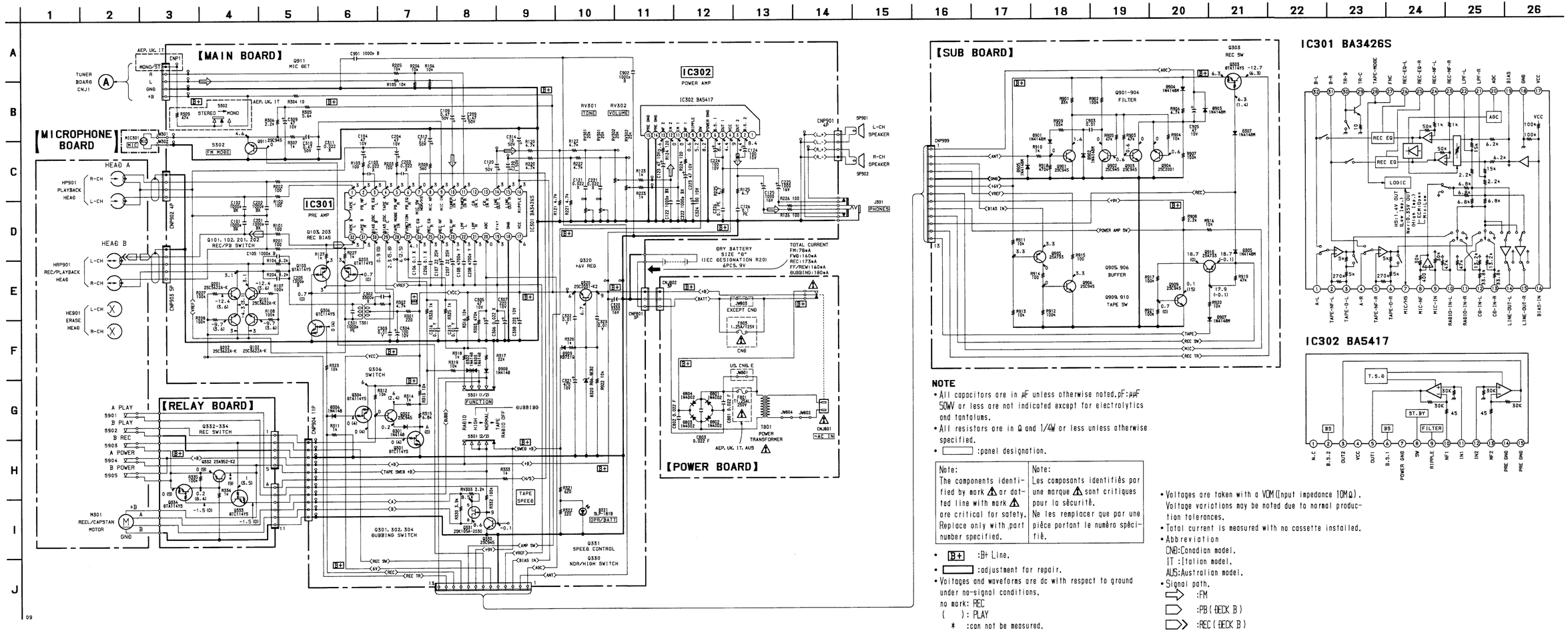
Ref. No.	Location
D301	D-7
D302	C-2
D303	C-2
D305	E-15
D306	E-7
D307	D-15
D320	C-7
D321	A-6
D801	G-8
D802	G-8
D803	G-8
D804	G-8
D901	D-13
D902	E-13
D903	E-13
D904	D-13
D905	E-14
D907	E-15
D908	D-2
D909	D-8
IC301	C-5
IC302	C-10
Q101	D-4
Q102	D-4
Q103	C-3
Q201	E-4
Q202	E-4
Q203	C-3
Q301	D-8
Q302	D-7
Q303	D-15
Q304	E-8
Q306	D-3
Q320	C-8
Q330	D-9
Q331	D-9
Q332	H-2
Q333	G-1
Q334	G-2
Q901	E-13
Q902	E-13
Q903	E-13
Q904	E-13
Q905	D-14
Q906	D-14
Q909	D-15
Q910	D-15
Q911	A-7

Note:

- ⊶—— : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enable seeing.
- ■ : parts mounted on the conductor side.
- Abbreviation
  CND : Canadian model.
  IT : Italian model.
  AUS : Australian model.



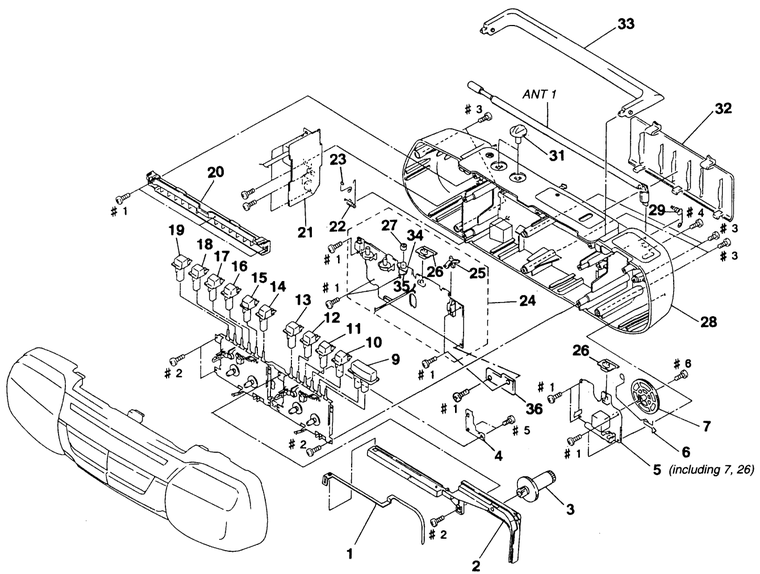
5-5. SCHEMATIC DIAGRAM — MAIN SECTION —



SECTION 6
EXPLODED VIEWS

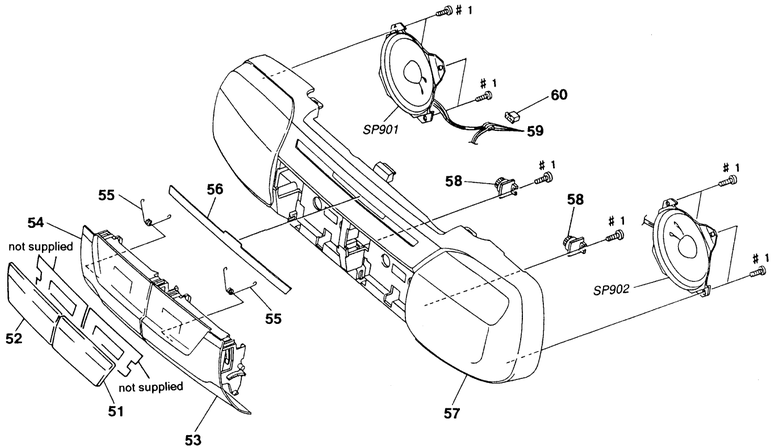
NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (RED)
  ↑
  Cabinet's color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  IT : Italian model
  AUS : Australian model

6-1. REAR CABINET SECTION



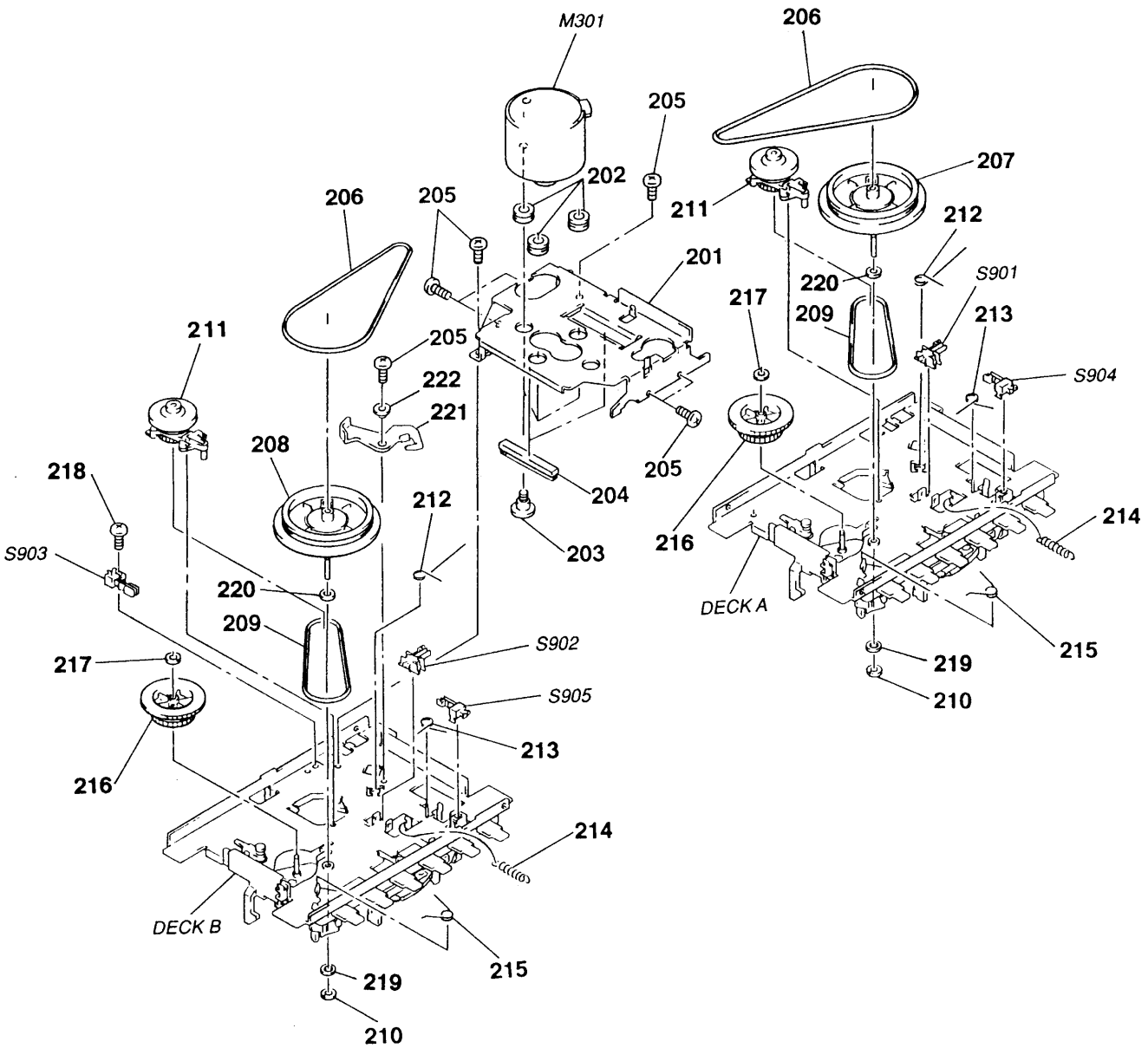
Ref. No.	Part No.	Description	Remark
1	3-936-317-01	POINTER	
2	3-936-339-01	CHASSIS (TUNE)	
3	3-936-314-01	KNOB (TUNING)... (BLACK)	
3	3-936-314-11	KNOB (TUNING)... (WHITE) (CND, AEP)	
* 4	1-661-696-11	RELAY BOARD	
* 5	A-3305-833-A	TUNER BOARD, COMPLETE (AEP, UK)	
* 5	A-3305-914-A	TUNER BOARD, COMPLETE (IT)	
* 5	A-3305-916-A	TUNER BOARD, COMPLETE (US, CND, E, AUS)	
6	3-936-316-01	TERMINAL, ANTENNA	
7	3-384-773-11	DRUM, TUNING CAPACITOR	
9	3-936-318-01	BUTTON (MD-A-PLAY)... (BLACK)	
9	3-936-318-11	BUTTON (MD-A-PLAY)... (WHITE) (CND, AEP)	
10	3-936-319-01	BUTTON (MD-A-REW)... (BLACK)	
10	3-936-319-11	BUTTON (MD-A-REW)... (WHITE) (CND, AEP)	
11	3-936-320-01	BUTTON (MD-A-F.F)... (BLACK)	
11	3-936-320-11	BUTTON (MD-A-F.F)... (WHITE) (CND, AEP)	
12	3-936-321-01	BUTTON (MD-A-S/E)... (BLACK)	
12	3-936-321-11	BUTTON (MD-A-S/E)... (WHITE) (CND, AEP)	
13	3-936-322-01	BUTTON (MD-A-PAUSE)... (BLACK)	
13	3-936-322-11	BUTTON (MD-A-PAUSE)... (WHITE) (CND, AEP)	
14	3-936-328-01	BUTTON (MD-B-REC)... (BLACK)	
14	3-936-328-11	BUTTON (MD-B-REC)... (WHITE) (CND, AEP)	
15	3-936-327-01	BUTTON (MD-B-PLAY)... (BLACK)	
15	3-936-327-11	BUTTON (MD-B-PLAY)... (WHITE) (CND, AEP)	
16	3-936-326-01	BUTTON (MD-B-REW)... (BLACK)	
16	3-936-326-11	BUTTON (MD-B-REW)... (WHITE) (CND, AEP)	
17	3-936-325-01	BUTTON (MD-B-F.F)... (BLACK)	
17	3-936-325-11	BUTTON (MD-B-F.F)... (WHITE) (CND, AEP)	
18	3-936-324-01	BUTTON (MD-B-S/E)... (BLACK)	
18	3-936-324-11	BUTTON (MD-B-S/E)... (WHITE) (CND, AEP)	
19	3-936-323-01	BUTTON (MD-B-PAUSE)... (BLACK)	
19	3-936-323-11	BUTTON (MD-B-PAUSE)... (WHITE) (CND, AEP)	
20	3-936-338-01	BRACKET (MD)... (BLACK)	
20	3-936-338-11	BRACKET (MD)... (WHITE) (CND, AEP)	
* 21	1-661-478-11	POWER BOARD	
22	3-936-311-01	TERMINAL (-), BATTERY	
23	3-936-310-01	TERMINAL (+), BATTERY	
* 24	A-3305-832-A	MAIN BOARD, COMPLETE (AEP, UK, IT)	
* 24	A-3305-915-A	MAIN BOARD, COMPLETE (US, CND, E, AUS)	
25	3-379-431-01	KNOB (LEVER)... (BLACK)	
25	3-379-431-11	KNOB (LEVER)... (WHITE) (AEP, IT)	
26	3-936-315-01	KNOB (SLIDE)... (BLACK)	
26	3-936-315-11	KNOB (SLIDE)... (WHITE) (AEP, IT)	
* 27	3-911-281-01	CUSHION, MIC	
28	3-936-336-01	CABINET (REAR)... (BLACK) (AEP, UK, IT)	
28	3-936-336-11	CABINET (REAR)... (WHITE) (AEP)	
28	3-936-336-21	CABINET (REAR)... (BLACK) (US)	
28	3-936-336-31	CABINET (REAR)... (BLACK) (CND, E, AUS)	
28	3-936-336-41	CABINET (REAR)... (WHITE) (CND)	
29	3-917-653-01	TERMINAL (+, -), BATTERY	
31	3-925-814-01	KNOB (ROTARY)... (BLACK)	
31	3-925-814-11	KNOB (ROTARY)... (WHITE) (CND, AEP)	
32	3-926-244-31	LID, BATTERY CASE... (BLACK)	
32	3-926-244-41	LID, BATTERY CASE... (WHITE) (CND, AEP)	
33	3-936-337-01	HANDLE... (BLACK)	
33	3-936-337-11	HANDLE... (WHITE) (CND, AEP)	
34	1-661-475-11	MICROPHONE BOARD	
* 35	3-940-630-01	SPACER, FLD	
* 36	1-663-342-11	SUB BOARD	
ANT1	1-501-388-11	ANTENNA, TELESCOPIC	

6-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-936-329-01	WINDOW (CASSETTE A)	
52	3-936-330-01	WINDOW (CASSETTE B)	
53	3-936-333-01	HOLDER (A), CASSETTE... (BLACK)	
53	3-936-333-11	HOLDER (A), CASSETTE... (WHITE) (CND, AEP)	
54	3-936-334-01	HOLDER (B), CASSETTE... (BLACK)	
54	3-936-334-11	HOLDER (B), CASSETTE... (WHITE) (CND, AEP)	
55	3-936-312-01	SPRING, CASSETTE	
56	3-936-313-01	WINDOW, DIAL... (BLACK)	
56	3-936-313-11	WINDOW, DIAL... (WHITE) (CND, AEP)	
57	X-3372-318-1	CABINET (FRONT) SUB ASSY... (BLACK) (AEP, UK)	
57	X-3372-319-1	CABINET (FRONT) SUB ASSY... (WHITE) (AEP)	
57	X-3372-411-1	CABINET (FRONT) SUB ASSY... (BLACK) (IT)	
57	X-3372-412-1	CABINET (FRONT) SUB ASSY... (BLACK) (US, CND, E, AUS)	
57	X-3372-413-1	CABINET (FRONT) SUB ASSY... (WHITE) (CND)	
58	3-351-377-01	DAMPER	
* 59	1-565-740-11	CONTACT, RECEPTACLE 1P	
60	1-580-147-11	HOUSING, CONNECTOR 4P	
SP901	1-544-742-11	SPEAKER (10CM)	
SP902	1-544-742-11	SPEAKER (10CM)	

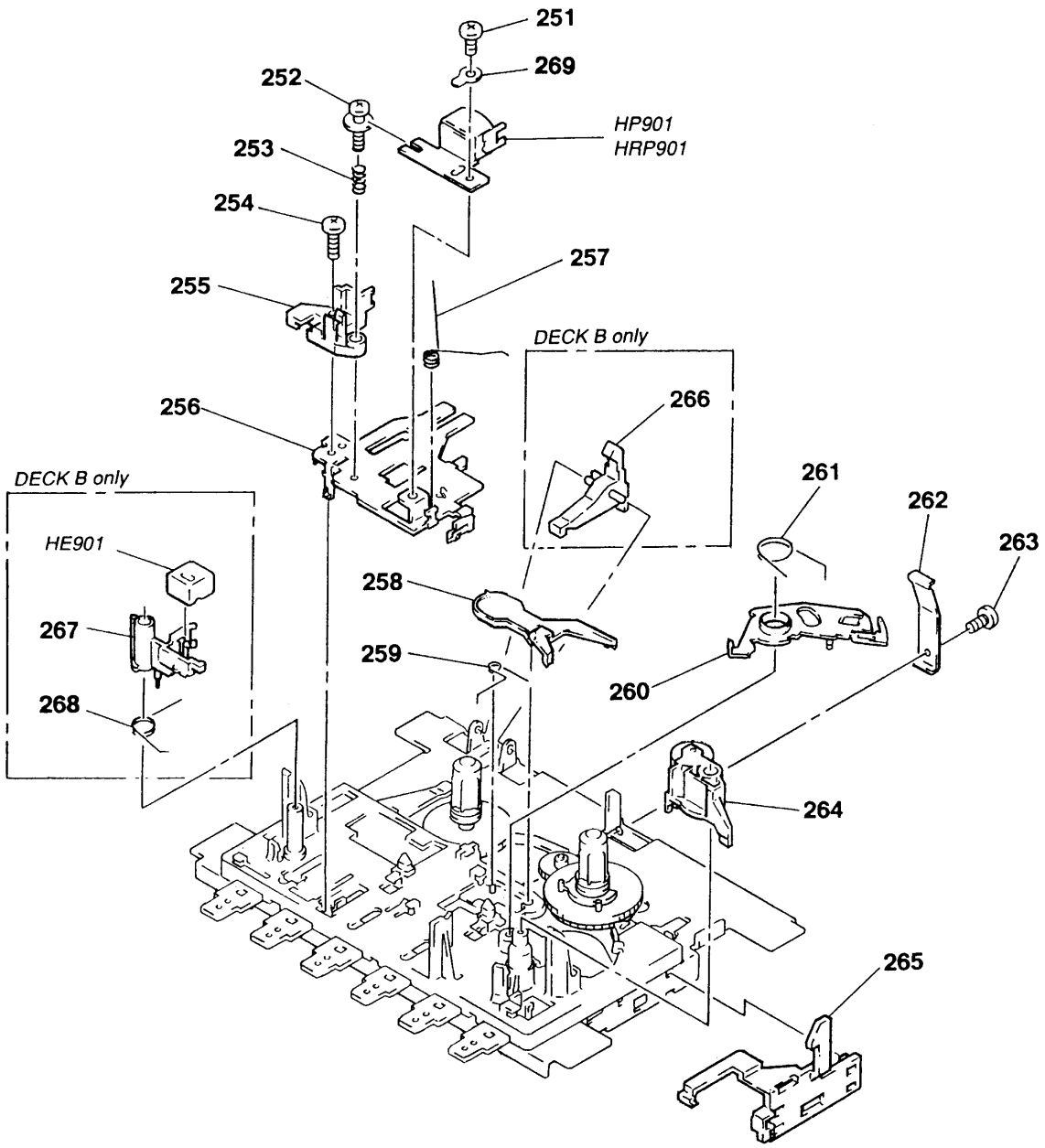
6-3. MECHANISM DECK SECTION (1) (MF-W338)



Ref. No.	Part No.	Description	Remark
201	3-936-858-01	BRACKET, MOTOR	
202	3-915-799-01	RUBBER, MOTOR	
203	3-915-800-01	SCREW, MOTOR COLLAR	
204	3-915-803-01	MAT, VIBRATION PROOF	
205	3-915-809-01	SCREW (M2X4), C TIGHT	
206	3-936-859-01	BELT, MAIN	
207	3-915-789-01	FLYWHEEL ASSY (DECK A)	
208	3-915-788-01	FLYWHEEL ASSY (DECK B)	
209	3-915-787-01	BELT, RF	
210	3-915-818-01	WASHER, POLY-SLIDER	
211	3-936-856-01	CLUTCH, RF	
212	3-915-773-01	SPRING, REC BUTTON LEVER	
213	3-915-759-01	SPRING, PS LEVER	
214	3-915-775-01	SPRING (S), PLAY BUTTON LEVER	
215	3-915-758-01	SPRING, E ACTUATOR	

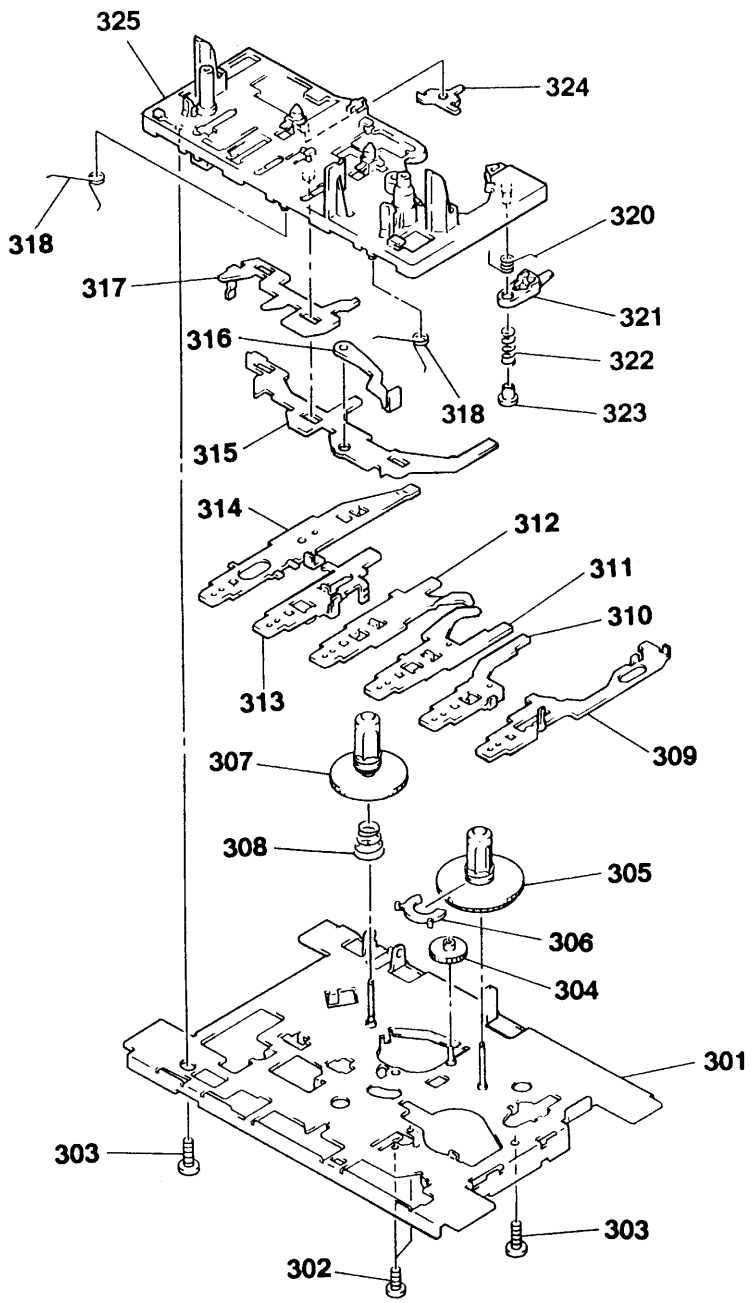
Ref. No.	Part No.	Description	Remark
216	3-915-792-01	GEAR, CAM	
217	3-915-817-01	WASHER, POLY-SLIDER	
218	3-915-815-01	SCREW (M2X6), C TIGHT	
219	3-936-860-01	WASHER, POLY-SLIDER	
220	3-936-861-01	WASHER, POLY-SLIDER	
221	3-915-453-01	ARM, REC (DECK B)	
222	3-933-827-01	COLLAR, P ARM (DECK B)	
M301	X-3369-087-1	MOTOR ASSY (REEL/CAPSTAN)	
S901	1-762-023-11	SWITCH, LEAF (MSW17820MVD0) (A PLAY)	
S902	1-762-023-11	SWITCH, LEAF (MSW17820MVD0) (B PLAY)	
S903	1-762-024-11	SWITCH, LEAF (MSW-1275) (B REC) (DECK B)	
S904	1-762-022-11	SWITCH, LEAF (MSW-1541T) (A POWER)	
S905	1-762-022-11	SWITCH, LEAF (MSW-1541T) (B POWER)	

6-4. MECHANISM DECK SECTION (2) (MF-W338)



Ref. No.	Part No.	Description	Remark
251	3-915-813-01	SCREW (M2X3), + BIND	
252	3-915-814-01	SCREW (M2X7), AZIMUTH	
253	3-915-783-01	SPRING, AZIMUTH	
254	3-915-812-01	SCREW (M2X6), PAN	
255	3-915-777-01	BASE, HEAD	
256	3-915-776-01	PANEL, HEAD	
257	3-915-780-01	SPRING, PANEL (P)	
258	3-915-785-01	LEVER, SENSING	
259	3-915-781-01	SPRING, M CONTROL	
260	3-936-857-01	PLATE, GEAR	
261	3-915-790-01	SPRING, GEAR PLATE	
262	3-936-863-01	PLATE, SP, PACK RETAINER	
263	3-915-808-01	SCREW (M2X3), C TIGHT	
264	3-915-784-01	ARM ASSY, PINCH ROLLER	
265	3-348-366-01	LEVER, EJECT SLIDE	
266	3-915-806-01	LEVER, REC SAFETY (DECK B)	
267	3-915-782-01	ARM, MG (DECK B)	
268	3-933-816-01	SPRING, MG ARM (DECK B)	
269	3-934-748-01	PLATE, LUG (B)	
HE901	1-500-139-11	HEAD, E (PH-K380-MS1-6A) (DECK B)	
HP901	1-500-354-11	HEAD, R/P (DECK A)	
HRP901	1-500-354-11	HEAD, R/P (DECK B)	

6-5. MECHANISM DECK SECTION (3) (MF-W338)



Ref. No.	Part No.	Description	Remark
* 301	3-915-757-01	CHASSIS ASSY	
302	3-915-811-01	SCREW (M2X4.5), CAMERA TAPPING	
303	3-915-810-01	SCREW (M2X5), P TIGHT BIND	
304	3-915-793-01	GEAR, FF	
305	3-915-796-01	REEL ASSY, TAKE-UP	
306	3-915-797-01	SENSOR	
307	3-915-795-01	REEL ASSY, SUPPLY	
308	3-915-794-01	SPRING, BACK TENSION	
* 309	3-394-742-01	LEVER, PAUSE BUTTON	
* 310	3-394-741-01	LEVER, STOP BUTTON	
* 311	3-394-740-01	LEVER, FF BUTTON	
* 312	3-394-739-01	LEVER, REW BUTTON	
* 313	3-394-738-01	LEVER, PLAY BUTTON	
* 314	3-394-737-01	LEVER, REC BUTTON	
* 315	3-915-742-01	PLATE, FUNCTION, PUSH BUTTON	
* 316	3-915-760-01	LEVER, E KICK	
317	3-936-854-01	PLATE, SWITCH FUNCTION	
318	3-915-756-01	SPRING (A), BUTTON LEVER	
320	3-915-752-01	SPRING, P CONTROL	
321	3-936-855-01	LEVER (F), PAUSE	
322	3-915-754-01	SPRING, PAUSE LEVER	
323	3-915-755-01	STOPPER, PAUSE	
* 324	3-915-772-01	STOPPER, PR	
325	3-933-796-01	BASE ASSY	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Abbreviation
  CND : Canadian model
  IT : Italian model
  AUS : Australian model

Ref. No.	Part No.	Description			Remark
*	A-3305-832-A	MAIN BOARD, COMPLETE (AEP, UK, IT)			
		**********			
*	A-3305-915-A	MAIN BOARD, COMPLETE (US, CND, E, AUS)			
		**********			
		< CAPACITOR >			
C101	1-162-294-31	CERAMIC	0.001uF	10%	50V
C102	1-162-294-31	CERAMIC	0.001uF	10%	50V
C103	1-162-843-11	CERAMIC	0.022uF	10%	16V
C104	1-104-664-11	ELECT	47uF	20%	10V
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C106	1-162-851-11	CERAMIC	0.1uF	10%	16V
C107	1-126-233-11	ELECT	22uF	20%	50V
C108	1-162-600-11	CERAMIC	0.0047uF	10%	16V
C109	1-124-902-00	ELECT	0.47uF	20%	50V
C120	1-124-903-11	ELECT	1uF	20%	50V
C121	1-162-843-11	CERAMIC	0.022uF	10%	16V
C122	1-162-294-31	CERAMIC	0.001uF	10%	50V
C123	1-104-664-11	ELECT	47uF	20%	10V
C124	1-124-443-00	ELECT	100uF	20%	10V
C125	1-126-942-61	ELECT	1000uF	20%	16V
C126	1-130-495-11	MYLAR	0.1uF	5%	50V
C201	1-162-294-31	CERAMIC	0.001uF	10%	50V
C202	1-162-294-31	CERAMIC	0.001uF	10%	50V
C203	1-162-843-11	CERAMIC	0.022uF	10%	16V
C204	1-104-664-11	ELECT	47uF	20%	10V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-162-851-11	CERAMIC	0.1uF	10%	16V
C207	1-126-233-11	ELECT	22uF	20%	50V
C208	1-162-600-11	CERAMIC	0.0047uF	10%	16V
C209	1-124-902-00	ELECT	0.47uF	20%	50V
C220	1-124-903-11	ELECT	1uF	20%	50V
C221	1-162-843-11	CERAMIC	0.022uF	10%	16V
C222	1-162-294-31	CERAMIC	0.001uF	10%	50V
C223	1-104-664-11	ELECT	47uF	20%	10V
C224	1-124-443-00	ELECT	100uF	20%	10V
C225	1-126-942-61	ELECT	1000uF	20%	16V
C226	1-130-495-11	MYLAR	0.1uF	5%	50V
C301	1-130-471-00	MYLAR	0.001uF	5%	50V
C302	1-161-045-00	CERAMIC	0.0033uF	10%	50V
C303	1-162-839-11	CERAMIC	0.01uF	10%	16V
C304	1-124-443-00	ELECT	100uF	20%	10V
C306	1-162-843-11	CERAMIC	0.022uF	10%	16V
C307	1-104-666-11	ELECT	220uF	20%	10V
C308	1-104-666-11	ELECT	220uF	20%	10V
C309	1-104-664-11	ELECT	47uF	20%	10V
C310	1-124-902-00	ELECT	0.47uF	20%	50V
C311	1-162-843-11	CERAMIC	0.022uF	10%	16V
C312	1-126-961-11	ELECT	2.2uF	20%	50V
C314	1-124-907-11	ELECT	10uF	20%	50V
C315	1-162-839-11	CERAMIC	0.01uF	10%	16V
C316	1-162-839-11	CERAMIC	0.01uF	10%	16V
C320	1-126-944-11	ELECT	3300uF	20%	16V
C321	1-124-472-11	ELECT	470uF	20%	10V
C322	1-162-306-11	CERAMIC	0.01uF	20%	16V
C323	1-162-306-11	CERAMIC	0.01uF	20%	16V
C324	1-124-443-00	ELECT	100uF	20%	10V
C901	1-162-294-31	CERAMIC	0.001uF	10%	50V
C902	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
CNP1	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			(US, CND, E, AUS)
CNP1	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			(AEP, UK, IT)
* CNP801	1-580-155-11	PIN, CONNECTOR (PC BOARD) 3P			
CNP901	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP902	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP903	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
* CNP904	1-778-708-11	PIN, CONNECTOR (PC BOARD) 11P			
		< DIODE >			
D301	8-719-987-63	DIODE	1N4148M		
D302	8-719-987-63	DIODE	1N4148M		
D303	8-719-987-63	DIODE	1N4148M		
D304	8-719-987-63	DIODE	1N4148M		
D306	8-719-987-63	DIODE	1N4148M		
D320	8-719-109-97	DIODE	RD6.8ES-B2		
D321	8-719-038-29	DIODE	SLP-181B-51 (OPR/BATT)		
D908	8-719-987-63	DIODE	1N4148M		
D909	8-719-049-26	DIODE	RB721Q		

Ref. No.	Part No.	Description	Remark
		< IC >	
IC301	8-759-426-50	IC BA3426S	
IC302	8-759-426-51	IC BA5417	
		< JACK >	
J301	1-566-891-11	JACK (PHONES)	
		< TRANSISTOR >	
Q101	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q102	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q103	8-729-902-80	TRANSISTOR DTA114YS	
Q201	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q202	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q203	8-729-902-80	TRANSISTOR DTA114YS	
Q301	8-729-904-36	TRANSISTOR DTC114YS	
Q302	8-729-194-57	TRANSISTOR 2SC945-P	
Q304	8-729-902-80	TRANSISTOR DTA114YS	
Q306	8-729-904-36	TRANSISTOR DTC114YS	
Q320	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q330	8-729-194-57	TRANSISTOR 2SC945-P	
Q331	8-729-115-30	TRANSISTOR 2SK105A-30	
Q911	8-729-194-57	TRANSISTOR 2SC945-P	
		< RESISTOR >	
R101	1-249-405-11	CARBON 100 5% 1/4W F	
R102	1-249-405-11	CARBON 100 5% 1/4W F	
R103	1-249-405-11	CARBON 100 5% 1/4W F	
R104	1-247-724-11	CARBON 8.2K 5% 1/4W F	
R105	1-247-725-11	CARBON 10K 5% 1/4W F	
R106	1-247-725-11	CARBON 10K 5% 1/4W F	
R107	1-249-469-11	CARBON 100K 5% 1/4W	
R108	1-249-469-11	CARBON 100K 5% 1/4W	
R120	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R121	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R122	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R123	1-247-713-11	CARBON 1K 5% 1/4W F	
R124	1-247-701-11	CARBON 120 5% 1/4W F	
R125	1-249-455-11	CARBON 4.7 5% 1/4W	
R126	1-249-405-11	CARBON 100 5% 1/4W F	
R127	1-247-713-11	CARBON 1K 5% 1/4W F	
R201	1-249-405-11	CARBON 100 5% 1/4W F	
R202	1-249-405-11	CARBON 100 5% 1/4W F	
R203	1-249-405-11	CARBON 100 5% 1/4W F	
R204	1-247-724-11	CARBON 8.2K 5% 1/4W F	
R205	1-247-725-11	CARBON 10K 5% 1/4W F	
R206	1-247-725-11	CARBON 10K 5% 1/4W F	
R207	1-249-469-11	CARBON 100K 5% 1/4W	
R208	1-249-469-11	CARBON 100K 5% 1/4W	
R220	1-247-721-11	CARBON 4.7K 5% 1/4W F	

Ref. No.	Part No.	Description	Remark
R221	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R222	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R223	1-247-713-11	CARBON 1K 5% 1/4W F	
R224	1-247-701-11	CARBON 120 5% 1/4W F	
R225	1-249-455-11	CARBON 4.7 5% 1/4W	
R226	1-249-405-11	CARBON 100 5% 1/4W F	
R227	1-247-713-11	CARBON 1K 5% 1/4W F	
R301	1-247-704-11	CARBON 220 5% 1/4W F	
R302	1-247-721-11	CARBON 4.7K 5% 1/4W F	
R303	1-247-895-00	CARBON 470K 5% 1/4W	
R304	1-247-688-11	CARBON 10 5% 1/4W	
R305	1-247-722-11	CARBON 5.6K 5% 1/4W F	
R306	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R307	1-247-713-11	CARBON 1K 5% 1/4W F	
R308	1-247-710-11	CARBON 560 5% 1/4W F	
R309	1-249-465-11	CARBON 47K 5% 1/4W F	(AEP, UK, IT)
R311	1-247-713-11	CARBON 1K 5% 1/4W F	
R312	1-247-725-11	CARBON 10K 5% 1/4W F	
R313	1-247-725-11	CARBON 10K 5% 1/4W F	
R314	1-247-713-11	CARBON 1K 5% 1/4W F	
R315	1-247-723-11	CARBON 6.8K 5% 1/4W F	
R316	1-247-725-11	CARBON 10K 5% 1/4W F	
R317	1-249-462-11	CARBON 22K 5% 1/4W F	
R318	1-247-713-11	CARBON 1K 5% 1/4W F	
R319	1-247-725-11	CARBON 10K 5% 1/4W F	
R320	1-247-713-11	CARBON 1K 5% 1/4W F	
R321	1-247-826-00	CARBON 620 5% 1/4W	
R322	1-247-704-11	CARBON 220 5% 1/4W F	
R323	1-247-725-11	CARBON 10K 5% 1/4W F	
R325	1-247-713-11	CARBON 1K 5% 1/4W F	
R326	1-247-713-11	CARBON 1K 5% 1/4W F	
R330	1-247-720-11	CARBON 3.9K 5% 1/4W F	
R332	1-249-469-11	CARBON 100K 5% 1/4W	
R333	1-247-713-11	CARBON 1K 5% 1/4W F	
R922	1-249-429-11	CARBON 10K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV301	1-241-745-11	RES, VAR, CARBON 20K/20K (TONE)	
RV302	1-223-403-11	RES, VAR, CARBON 20K/20K (VOLUME)	
RV303	1-230-495-11	RES, ADJ, CARBON 2.2K	
		< SWITCH >	
S301	1-571-345-11	SWITCH, LEVER SLIDE (FUNCTION)	
S302	1-762-789-11	SWITCH, SLIDE (FM MODE) (AEP, UK, IT)	
		< TRANSFORMER >	
T301	1-433-346-11	TRANSFORMER, BIAS OSCILLATOR	

****

MICROPHONE | POWER | RELAY | SUB

Ref. No.	Part No.	Description		Remark
*	1-661-475-11	MICROPHONE BOARD		
		**********		
*	3-911-281-01	CUSHION, MIC		
		< MICROPHONE >		
MIC301	1-542-118-11	MICROPHONE, ELECTRET CONDENSER (MIC)		
**********				
*	1-661-478-11	POWER BOARD		
		**********		
	1-533-233-11	HOLDER, FUSE (CND, AEP, UK, IT, AUS)		
*	1-565-740-11	CONTACT, RECEPTACLE 1P		
		< CAPACITOR >		
C801	1-101-005-00	CERAMIC	22000PF	50V
C802	1-101-005-00	CERAMIC	22000PF	50V
C803	1-101-005-00	CERAMIC	22000PF	50V
		< CONNECTOR >		
⚠CNJ801	1-540-009-11	INLET, AC (~AC IN) (US, CND)		
⚠CNJ801	1-526-838-11	INLET, AC 2P (~AC IN) (AEP, UK, IT, AUS)		
⚠CNJ801	1-526-818-11	INLET, AC (~AC IN) (E)		
CNJ802	1-580-146-11	HOUSING, CONNECTOR 3P		
		< DIODE >		
D801	8-719-200-02	DIODE	10E2	
D802	8-719-200-02	DIODE	10E2	
D803	8-719-200-02	DIODE	10E2	
D804	8-719-200-02	DIODE	10E2	
		< FUSE >		
⚠F801	1-532-502-31	FUSE, TIME-LAG (1.25A/250V)		(AEP, UK, IT, AUS)
⚠F803	1-533-417-11	FUSE, GLASS CYLINDRICAL (DIA. 5)		(1.25A/125V) (CND)
		< TRANSFORMER >		
⚠T801	1-429-731-11	TRANSFORMER, POWER (US, CND, E)		
⚠T801	1-429-674-11	TRANSFORMER, POWER (AEP, UK, IT, AUS)		
**********				
*	1-661-696-11	RELAY BOARD		
		**********		
*	1-565-740-11	CONTACT, RECEPTACLE 1P		
		< TRANSISTOR >		
Q332	8-729-195-23	TRANSISTOR	2SA952	
Q333	8-729-904-36	TRANSISTOR	DTC114YS	
Q334	8-729-902-80	TRANSISTOR	DTA114YS	
		< RESISTOR >		
R334	1-247-713-11	CARBON	1K 5%	1/4W F
R335	1-249-469-11	CARBON	100K 5%	1/4W
**********				
*	1-663-342-11	SUB BOARD		
		**********		
		< CAPACITOR >		
C305	1-104-664-11	ELECT	47uF 20%	10V
C903	1-162-839-11	CERAMIC	0.01uF 10%	16V
		< CONNECTOR >		
CNP999	1-774-959-11	CONNECTOR 13P		
		< DIODE >		
D305	8-719-987-63	DIODE	1N4148M	
D307	8-719-987-63	DIODE	1N4148M	
D901	8-719-987-63	DIODE	1N4148M	
D902	8-719-987-63	DIODE	1N4148M	
D903	8-719-987-63	DIODE	1N4148M	
D904	8-719-987-63	DIODE	1N4148M	
D905	8-719-987-63	DIODE	1N4148M	
D907	8-719-987-63	DIODE	1N4148M	
		< TRANSISTOR >		
Q303	8-729-902-80	TRANSISTOR	DTA114YS	
Q901	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q902	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q903	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q904	8-729-142-46	TRANSISTOR	2SC2001-LK	
Q905	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q906	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q909	8-729-119-78	TRANSISTOR	2SC2785-HFE	
Q910	8-729-119-76	TRANSISTOR	2SA1175-HFE	
		< RESISTOR >		
R901	1-249-435-11	CARBON	33K 5%	1/4W
R902	1-249-441-11	CARBON	100K 5%	1/4W
R903	1-249-437-11	CARBON	47K 5%	1/4W
R904	1-249-429-11	CARBON	10K 5%	1/4W
R905	1-249-437-11	CARBON	47K 5%	1/4W
R906	1-249-425-11	CARBON	4.7K 5%	1/4W
R907	1-249-441-11	CARBON	100K 5%	1/4W
R908	1-249-421-11	CARBON	2.2K 5%	1/4W
R909	1-249-441-11	CARBON	100K 5%	1/4W
R910	1-249-417-11	CARBON	1K 5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description				Remark
R911	1-249-429-11	CARBON	10K	5%	1/4W	
R912	1-249-441-11	CARBON	100K	5%	1/4W	
R913	1-249-429-11	CARBON	10K	5%	1/4W	
R914	1-247-807-31	CARBON	100	5%	1/4W	
R915	1-247-807-31	CARBON	100	5%	1/4W	
R916	1-249-429-11	CARBON	10K	5%	1/4W	
R917	1-249-441-11	CARBON	100K	5%	1/4W	
R918	1-247-895-91	CARBON	470K	5%	1/4W	
R919	1-249-437-11	CARBON	47K	5%	1/4W	
R920	1-249-429-11	CARBON	10K	5%	1/4W	
R921	1-249-441-11	CARBON	100K	5%	1/4W	
**********						
*	A-3305-833-A	TUNER BOARD, COMPLETE (AEP, UK)				
		**********				
*	A-3305-914-A	TUNER BOARD, COMPLETE (IT)				
		**********				
*	A-3305-916-A	TUNER BOARD, COMPLETE (US, CND, E, AUS)				
		**********				
		< BAND PASS FILTER >				
BPF1	1-236-022-11	FILTER, BAND PASS				
		< CAPACITOR >				
C2	1-162-286-31	CERAMIC	220PF	10%	50V	
C3	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C4	1-124-907-11	ELECT	10uF	20%	50V	
C5	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C6	1-162-189-11	CERAMIC	1.5PF	20%	50V	(US, CND, E, AUS)
C6	1-162-191-31	CERAMIC	2.2PF	10%	50V	(IT)
C7	1-102-953-00	CERAMIC	18PF	5%	50V	(US, CND, E, AUS)
C7	1-102-960-00	CERAMIC	24PF	5%	50V	(IT)
C7	1-102-959-00	CERAMIC	22PF	5%	50V	(AEP, UK)
C8	1-102-959-00	CERAMIC	22PF	5%	50V	(US, CND, E, AUS)
C8	1-102-962-00	CERAMIC	30PF	5%	50V	(IT)
C8	1-102-961-00	CERAMIC	27PF	5%	50V	(AEP, UK)
C9	1-162-196-31	CERAMIC	5.6PF	10%	50V	(US, CND, E, AUS)
C9	1-162-199-31	CERAMIC	10PF	5%	50V	(AEP, UK, IT)
C10	1-162-193-31	CERAMIC	3.3PF	10%	50V	
C12	1-162-282-31	CERAMIC	100PF	10%	50V	
C13	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C14	1-126-963-11	ELECT	4.7uF	20%	50V	
C15	1-124-903-11	ELECT	1uF	20%	50V	
C16	1-104-664-11	ELECT	47uF	20%	10V	
C17	1-104-664-11	ELECT	47uF	20%	10V	
C18	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C19	1-162-840-11	CERAMIC	0.012uF	10%	16V	(US, CND, E, AUS)
C19	1-162-839-11	CERAMIC	0.01uF	10%	16V	(AEP, UK, IT)
C20	1-162-840-11	CERAMIC	0.012uF	10%	16V	(US, CND, E, AUS)
C20	1-162-839-11	CERAMIC	0.01uF	10%	16V	(AEP, UK, IT)
C21	1-124-903-11	ELECT	1uF	20%	50V	
C22	1-124-902-00	ELECT	0.47uF	20%	50V	
C23	1-126-963-11	ELECT	4.7uF	20%	50V	
C24	1-124-443-00	ELECT	100uF	20%	10V	
C25	1-162-203-31	CERAMIC	15PF	5%	50V	
C26	1-126-961-11	ELECT	2.2uF	20%	50V	
C27	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C28	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C31	1-124-902-00	ELECT	0.47uF	20%	50V	
C32	1-124-902-00	ELECT	0.47uF	20%	50V	
C33	1-124-903-11	ELECT	1uF	20%	50V	
C39	1-162-306-11	CERAMIC	0.01uF	20%	16V	
		< FILTER >				
CF1	1-577-072-11	FILTER, CERAMIC				
CF2	1-760-738-11	FILTER, CERAMIC				
CF3	1-760-738-11	FILTER, CERAMIC				
		< CONNECTOR >				
CNJ1	1-580-147-11	HOUSING, CONNECTOR 4P (US, CND, E, AUS)				
CNJ1	1-580-148-21	HOUSING, CONNECTOR 5P (AEP, UK, IT)				
		< TRIMMER >				
CT1-4	1-151-696-11	CAP, VAR (TUNING) (US, CND, E, AUS)				
CV1-4	1-151-696-11	CAP, VAR (TUNING) (US, CND, E, AUS)				
CT1-4	1-141-484-11	CAP, VAR (TUNING) (AEP, UK, IT)				
CV1-4	1-141-484-11	CAP, VAR (TUNING) (AEP, UK, IT)				
		< IC >				
IC1	8-752-056-23	IC CXA1538S				
		< COIL >				
L1	1-422-317-31	COIL, AIR-CORE				
L2	1-428-775-11	COIL, AIR-CORE (US, CND, E, AUS)				
L2	1-422-230-11	COIL, AIR-CORE (AEP, UK)				
L2	1-406-957-11	COIL (WITH CORE) (IT)				
L3	1-501-646-11	ANTENNA, FERRITE-ROD (MW) (US, CND, E, AUS)				
L3	1-402-158-11	ANTENNA, FERRITE-ROD (MW) (AEP, UK, IT)				
L4	1-406-040-62	COIL (OSC)				

TUNER

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q1	8-729-806-30	TRANSISTOR 2SC4048	
Q5	8-729-194-57	TRANSISTOR 2SC945-P	
Q6	8-729-194-57	TRANSISTOR 2SC945-P	
		< RESISTOR >	
R2	1-247-722-11	CARBON 5.6K 5% 1/4W F	(US, CND, E, AUS)
R3	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R4	1-249-469-11	CARBON 100K 5% 1/4W	
R5	1-247-711-11	CARBON 680 5% 1/4W F	
R6	1-247-706-11	CARBON 330 5% 1/4W F	
R7	1-247-704-11	CARBON 220 5% 1/4W F	
R8	1-247-699-11	CARBON 82 5% 1/4W F	
R9	1-247-723-11	CARBON 6.8K 5% 1/4W F	
R10	1-247-723-11	CARBON 6.8K 5% 1/4W F	
R11	1-247-887-00	CARBON 220K 5% 1/4W	
R12	1-247-717-11	CARBON 2.2K 5% 1/4W F	
R13	1-247-887-00	CARBON 220K 5% 1/4W	
R14	1-247-725-11	CARBON 10K 5% 1/4W F	
R16	1-247-725-11	CARBON 10K 5% 1/4W F	
R23	1-247-887-00	CARBON 220K 5% 1/4W	
R24	1-247-887-00	CARBON 220K 5% 1/4W	
		< VARIABLE RESISTOR >	
RT1	1-238-601-11	RES, ADJ, CARBON 22K	
		< SWITCH >	
S1	1-762-789-11	SWITCH, SLIDE (BAND)	
		< TRANSFORMER >	
T1	1-406-952-11	TRANSFORMER, IF	
T2	1-409-944-11	COIL (DET)	

****

MISCELLANEOUS
****

* 59	1-565-740-11	CONTACT, RECEPTACLE 1P	
60	1-580-147-11	HOUSING, CONNECTOR 4P	
ANT1	1-501-388-11	ANTENNA, TELESCOPIC	
HE901	1-500-139-11	HEAD, E (PH-K380-MS1-6A)	(DECK B)
HP901	1-500-354-11	HEAD, R/P	(DECK A)
HRP901	1-500-354-11	HEAD, R/P	(DECK B)
M301	X-3369-087-1	MOTOR ASSY (REEL/CAPSTAN)	
S901	1-762-023-11	SWITCH, LEAF (MSW17820MVD0)	(B PLAY)
S902	1-762-023-11	SWITCH, LEAF (MSW17820MVD0)	(A PLAY)
S903	1-762-024-11	SWITCH, LEAF (MSW-1275)	(B REC) (DECK B)
S904	1-762-022-11	SWITCH, LEAF (MSW-1541T)	(A POWER)
S905	1-762-022-11	SWITCH, LEAF (MSW-1541T)	(B POWER)
SP901	1-544-742-11	SPEAKER (10CM)	
SP902	1-544-742-11	SPEAKER (10CM)	

****

ACCESSORIES & PACKING MATERIALS
****

⚠	1-557-287-11	CORD, POWER (E)
⚠	1-590-147-11	CORD, POWER (US, CND)
⚠	1-696-819-11	CORD, POWER (AUS)
⚠	1-696-820-21	CORD, POWER (AEP, UK, IT)
	1-770-019-21	ADAPTOR, CONVERSION PLUG 3P (UK)
	3-856-628-11	MANUAL, INSTRUCTION (ENGLISH, GERMAN) (AEP)
	3-856-628-21	MANUAL, INSTRUCTION (FRENCH, SPANISH) (AEP)
	3-856-628-31	MANUAL, INSTRUCTION (DUTCH, SWEDISH) (AEP)
	3-856-628-41	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)
	3-856-628-51	MANUAL, INSTRUCTION (ITALIAN) (IT)
	3-856-628-71	MANUAL, INSTRUCTION (ENGLISH) (US, CND, E, AUS)
	3-856-628-81	MANUAL, INSTRUCTION (FRENCH) (CND)
	3-856-628-91	MANUAL, INSTRUCTION (SPANISH) (E)
*	3-937-508-01	INDIVIDUAL CARTON (AEP, IT)
*	3-937-509-01	INDIVIDUAL CARTON (UK, AUS)
*	3-937-511-01	INDIVIDUAL CARTON (CND)
*	3-937-512-01	INDIVIDUAL CARTON (US)
*	3-937-513-01	INDIVIDUAL CARTON (E)
*	3-937-516-01	CUSHION (L)
*	3-937-517-01	CUSHION (R)
*	3-937-519-01	SLEEVE (UK, AUS)

****

****
HARDWARE LIST
****

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT
#2	7-685-648-79	SCREW +BVTP 3X12 TYPE2 SLIT
#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 SLIT
#4	7-682-548-09	SCREW +B 3X8
#5	7-682-547-04	SCREW +PTT 3X6 (S)
#6	7-621-770-87	SCREW +B 2.6X5

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

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Sony Corporation
Personal A&V Products Company

CFS-W338

SONY

SERVICE MANUAL

1997. 10

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT - 1

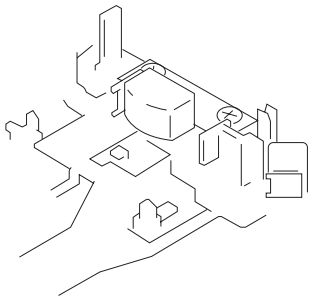
File this Supplement with the Service Manual .

Subject :
- **CHANGE OF TAPE TRANSPORT MECHANISM**

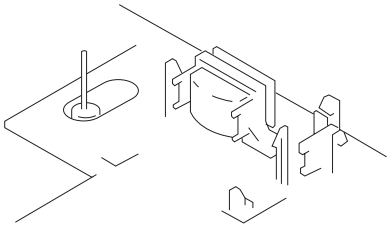
(ECN-RC700972)

The tape transport mechanism, adjustment and electrical part has been changed.
Exploded views of new type, and changed parts list are described in this Supplement-1.
Refer to original service manual previously issued for the other information.
Further, please distinguish between the sets by judging the difference in shapes of the mechanism decks.

Former Type Mechanism
(MF-W338)



New Type Mechanism
(MF-W338-117)



Page 1

	Former Type	New Type
Model Name Using Similar Mechanism	NEW	NEW
Tape Transport Mechanism Type	MF-W338	MF-W338-117

- **MECHANICAL ADJUSTMENT** (Service Manual See Page 7)

New Type

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-120C	18 to 60g • cm (0.25 - 0.83 oz • inch)
Forward back tension	CQ-120C	1 to 5g • cm (0.014 - 0.083 oz • inch)
Fast Forward	CQ-201B	45 - 95 g • cm (0.63 - 1.31 oz • inch)
Rewind	CQ-201B	45 - 95 g • cm (0.63 - 1.31 oz • inch)

Torque Tension Measurement

Mode	Tension Meter	Meter reading
Forward	CQ-403A	mor than 60 g (mor than 2.12 oz)

- **ELECTRICAL ADJUSTMENT** (Service Manual See Page 9)

	Former Type	New Type
Record/playback Head Azimuth Adjustment	Adjustment is required	Not adjustment is required

- **Changed part**

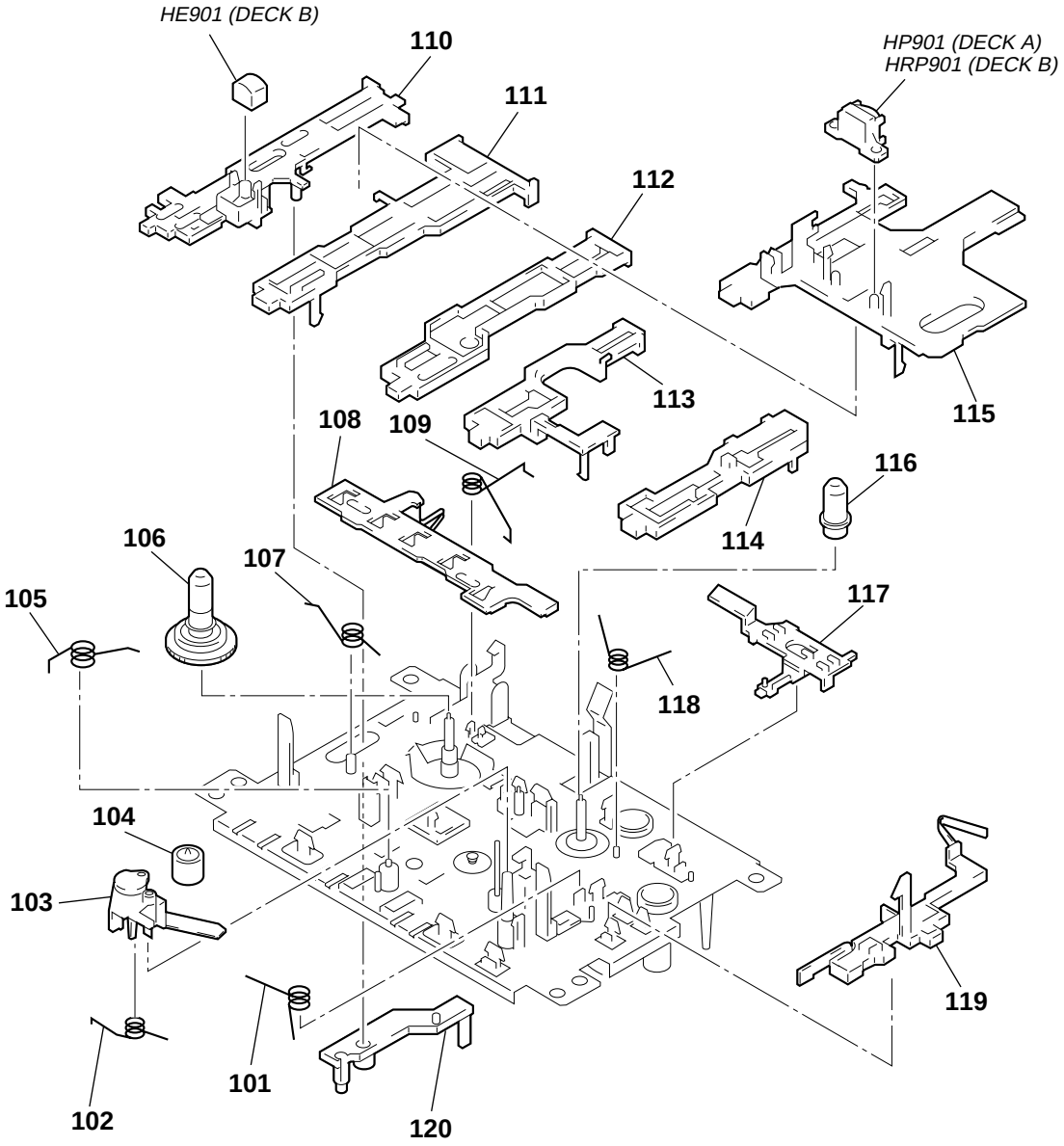
ELECTRICAL PARTS LIST

MAIN (Service Manual See Page 29)

	Former Type					New Type				
Ref. No.	Part No.	Description				Part No.	Description			
R330	1-247-720-11	CARBON	3.9K	5%	1/4W	1-247-146-00	CARBON	4.3K	5%	1/4W

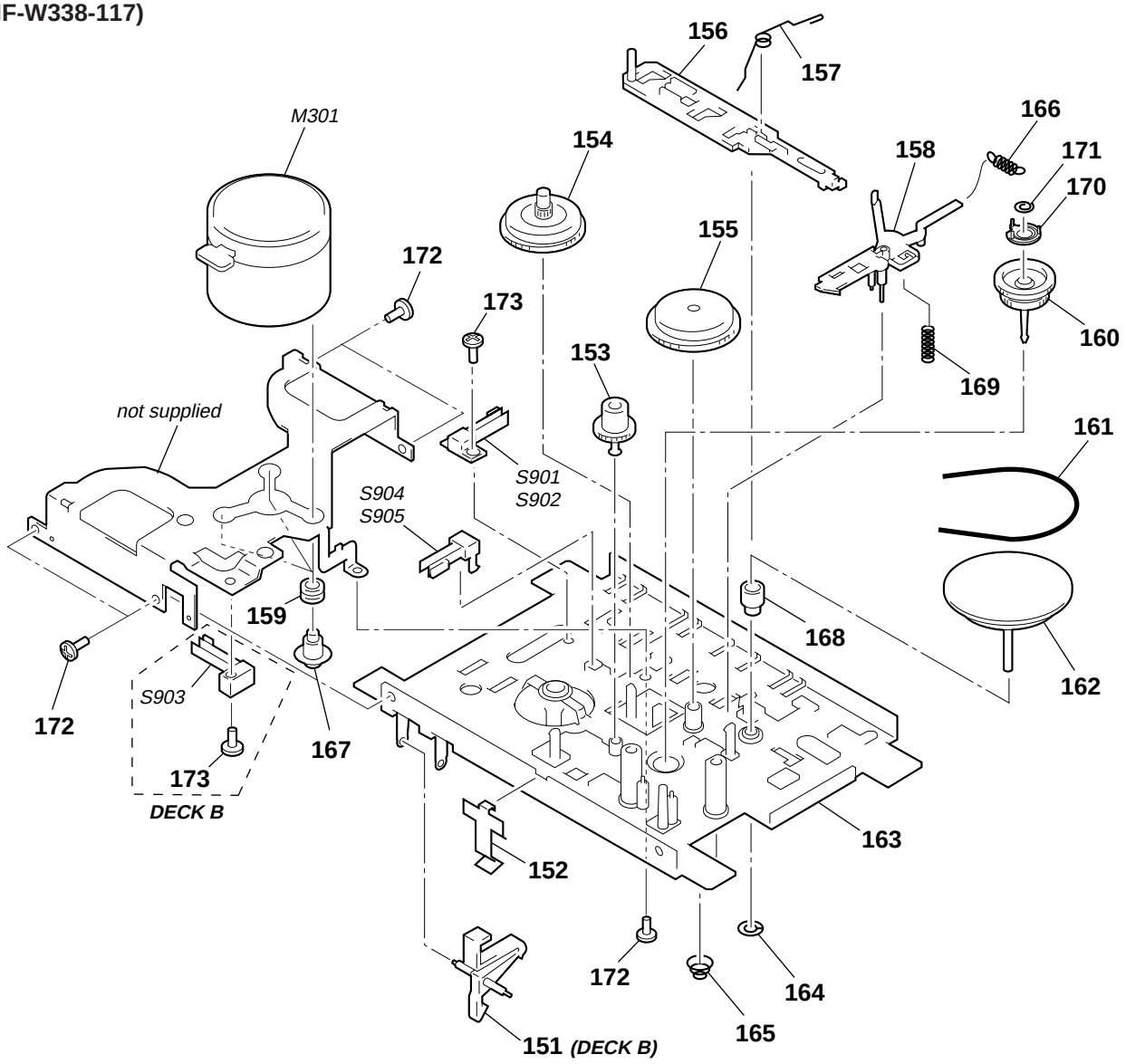
● **EXPLODED VIEWS** (Service Manual See Page 25 – 27)

6-3. MECHANISM DECK SECTION-1 (MF-W338-117)



Ref. No.	Part No.	Description	Remark
101	3-933-010-01	SPRING (S/P), TORSION	
102	3-933-025-01	SPRING (P), TORSION	
103	3-933-026-01	LEVER (P)	
104	3-933-024-01	ROLLER, PINCH	
105	3-933-019-01	SPRING (F/R), TORSION	
106	3-933-016-01	GEAR (S REEL)	
107	3-933-028-01	SPRING (FWD), TORSION	
* 108	3-933-007-01	PLATE, LOCK	
109	3-022-794-01	SPRING (BT)	
110	3-933-023-11	SLIDER (REC)	
* 111	3-933-017-11	SLIDER (REW)	
* 112	3-933-018-11	SLIDER (FF)	
* 113	3-933-009-11	SLIDER (STOP)	
* 114	3-933-008-11	SLIDER (PAUSE)	
115	3-933-000-11	BASE (S), HEAD	
116	3-933-004-01	CLAW, REEL	
* 117	3-933-021-01	SLIDER (FRP)	
118	3-934-833-01	SPRING (FRP)	
119	3-933-006-01	SLIDER (EJECT)	
120	3-014-696-01	SLIDER (SW)	
HE901	1-543-876-11	HEAD (ERASE) (DECK B)	
HP901	1-500-454-11	HEAD (PLAYBACK) (DECK A)	
HRP901	1-500-454-11	HEAD,MAGNETIC (RECORD/PLAYBACK) (DECK B)	

6-4. MECHANISM DECK SECTION-2
(MF-W338-117)



Ref. No.	Part No.	Description	Remark
151	3-933-029-01	LEVER, ERASING PREVENTION (DECK B)	
152	3-933-182-01	SPRING, CASSETTE	
153	3-932-995-01	GEAR (MID)	
154	X-3371-667-1	CLUTCH ASSY	
155	3-932-997-01	GEAR (CAM)	
* 156	3-932-999-11	SLIDER (SW)	
157	3-932-998-01	SPRING (GROUND), TORSION	
158	3-009-648-01	LEVER (S.OFF)	
159	3-014-797-01	CUSHION, MOTOR	
160	X-3373-572-1	REEL ASSY (N), T	
161	3-016-031-11	BELT	
162	X-3374-077-1	FLYWHEEL ASSY (W)	
163	3-932-993-01	CHASSIS, OUTSERT	
164	3-343-358-01	RING, RETAINING	
165	3-933-005-01	SPRING (CAM), COMPRESSION	

Ref. No.	Part No.	Description	Remark
166	3-020-108-01	SPRING, TENSION	
167	3-313-854-01	SCREW, MOTOR	
168	3-934-336-01	BEARING	
169	3-939-383-01	SPRING, COMPRESSION	
170	3-936-438-01	LEVER (K)	
171	3-009-650-02	SPRING (K), COMPRESSION	
172	7-685-782-01	SCREW +PTT 2X5, (S)	
173	7-685-783-09	SCREW +PTT 2X6, (S)	
M301	A-3311-837-A	MOTOR ASSY (W)	
S901	1-771-059-11	SWITCH, LEAF (A PLAY)	
S902	1-771-059-11	SWITCH, LEAF (B PLAY)	
S903	1-771-059-11	SWITCH, LEAF (B REC) (DECK B)	
S904	1-762-679-11	SWITCH, LEAF (A POWER)	
S905	1-762-679-11	SWITCH, LEAF (B POWER)	

9-923-040-82

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Personal A&V Products Company

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CFS-W338

SONY

SERVICE MANUAL

1999. 12

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model

SUPPLEMENT - 2

File this Supplement with the Service Manual.

Subject :
● CHANGE OF TUNER BOARD (US model only)
1-661-477-11 ➡ 1-674-224-11

(ECN-RC801730)

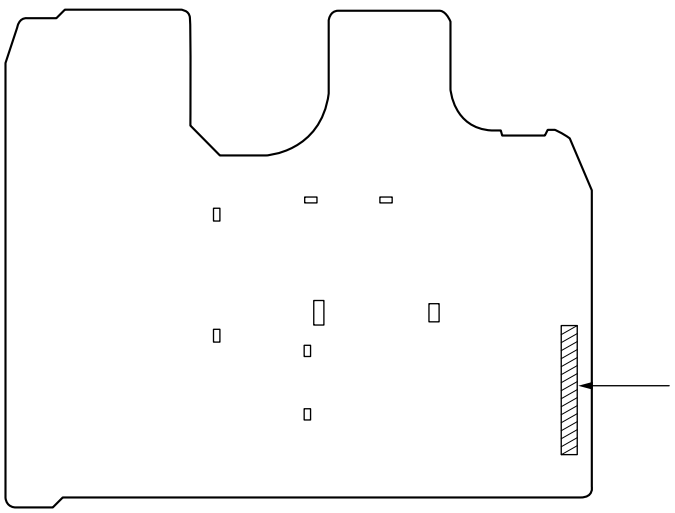
Due to this change, only printed wiring boards, schematic diagram and a electrical parts list of US model are described in this supplement-2.
For other information, please refer to the previously issued CFS-W338 service manual (9-923-040-11) and Supplement-1 (9-923-040-82).

● CHANGE OF TUNER BOARD (US model only)

Serial No. of changed model :
US model : 310,906 and later

NEW TYPE IDENTIFICATION

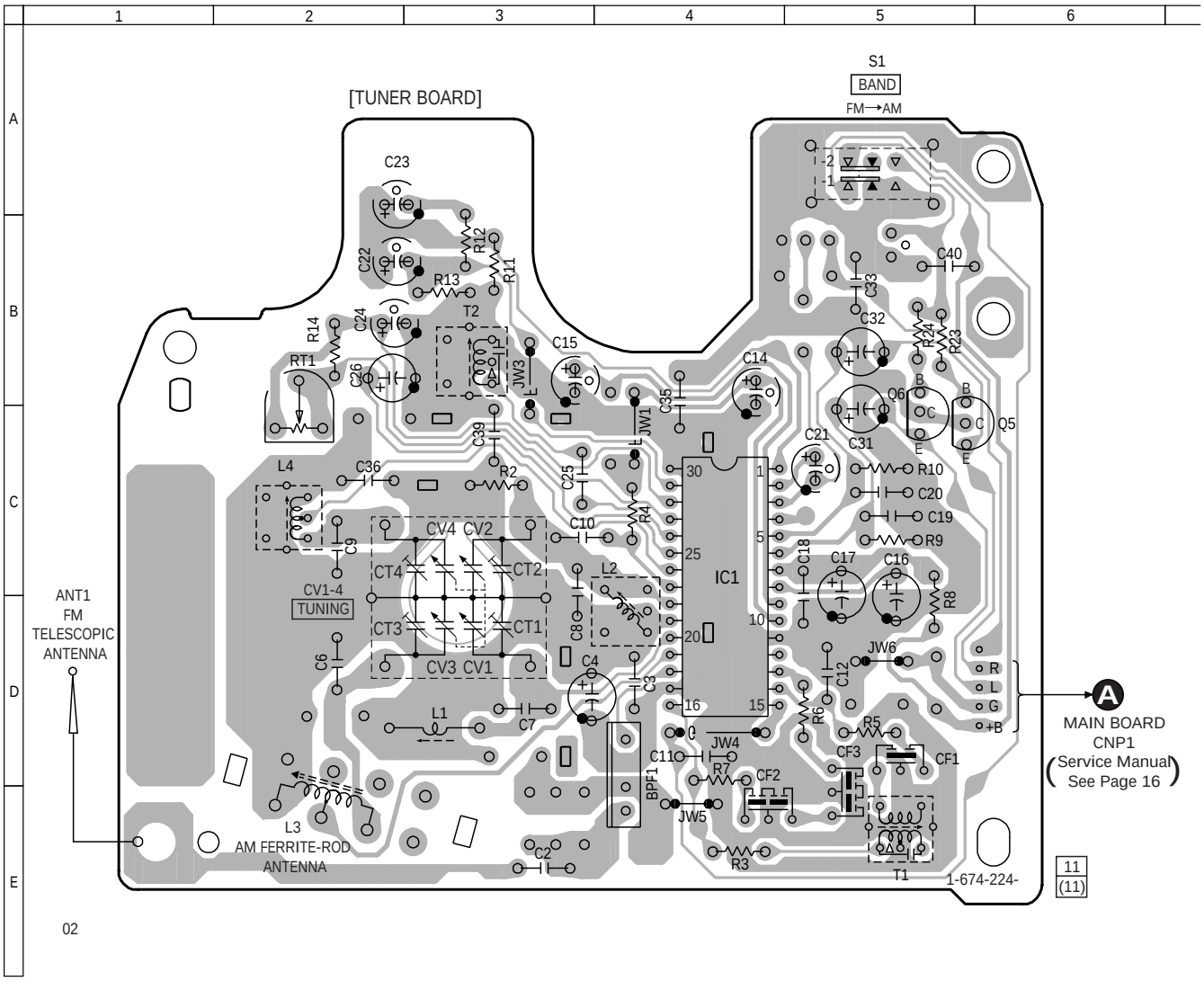
[TUNER BOARD] (Component side)



Former type : 1-661-477-11
New type : 1-674-224-11

● PRINTED WIRING BOARD – TUNER SECTION – (US model only)

(Service Manual See page 12)



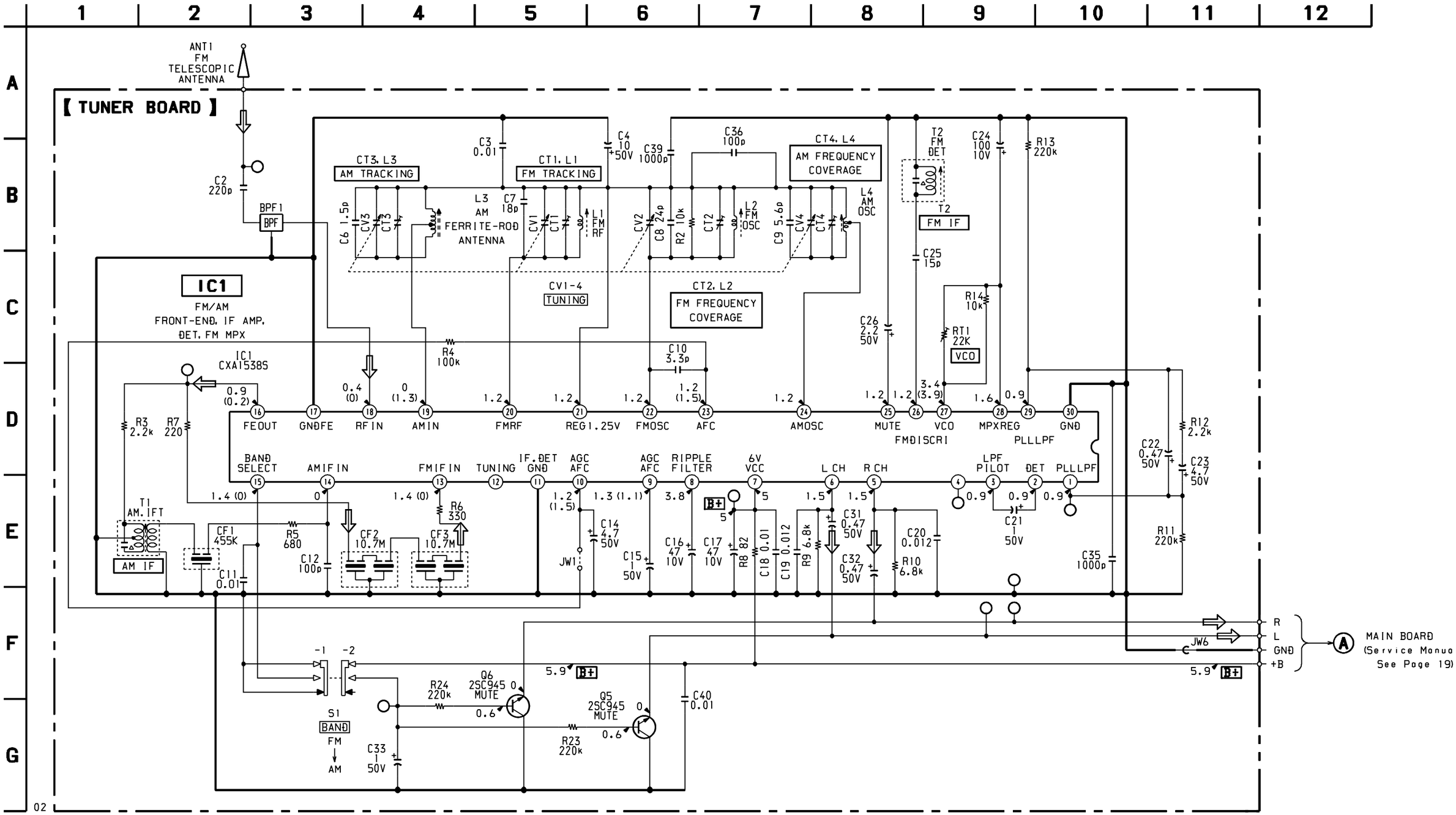
● Semiconductor Location

Ref. No.	Location
IC1	C-4
Q5	C-5
Q6	C-5

Note:

- ○——— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

● **SCHEMATIC DIAGRAM – TUNER SECTION – (US model only)** (Service Manual See page 13, 14)



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

● CHANGE OF EXPLODED VIEWS PARTS LIST

(Service Manual See page 23)

	Before Change		After Change	
Ref. No.	Part No.	Description	Part No.	Description
* 5	A-3305-916-A	TUNER BOARD, COMPLETE (US, Canadian, Australian, E)	A-3305-916-A	TUNER BOARD, COMPLETE (Canadian, Australian, E)
			A-3322-054-A	TUNER BOARD, COMPLETE (US)

CFS-W338

TUNER

● ELECTRICAL PARTS LIST (US model only) (Service Manual See page 31 to 32)

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.

When indicating parts by reference number, please include the board.

- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H

Ref. No.	Part No.	Description			Remark
*	A-3322-054-A	TUNER BOARD, COMPLETE (US)			
		**********			
		< BAND PASS FILTER >			
BPF1	1-236-022-11	FILTER, BAND PASS			
		< CAPACITOR >			
C2	1-162-286-21	CERAMIC	220PF	10%	50V
C3	1-162-306-11	CERAMIC	0.01uF	20%	16V
C4	1-124-907-11	ELECT	10uF	20%	50V
C6	1-162-189-11	CERAMIC	1.5PF	20%	50V
C7	1-162-205-31	CERAMIC	18PF	5%	50V
C8	1-162-208-31	CERAMIC	24PF	5%	50V
C9	1-162-196-31	CERAMIC	5.6PF	10%	50V
C10	1-162-193-31	CERAMIC	3.3PF	10%	50V
C11	1-162-306-11	CERAMIC	0.01uF	20%	16V
C12	1-162-282-31	CERAMIC	100PF	10%	50V
C14	1-126-963-11	ELECT	4.7uF	20%	50V
C15	1-124-903-11	ELECT	1uF	20%	50V
C16	1-104-664-11	ELECT	47uF	20%	10V
C17	1-104-664-11	ELECT	47uF	20%	10V
C18	1-162-306-11	CERAMIC	0.01uF	20%	16V
C19	1-127-877-21	CERAMIC	0.012uF	10%	50V
C20	1-127-877-21	CERAMIC	0.012uF	10%	50V
C21	1-124-903-11	ELECT	1uF	20%	50V
C22	1-124-902-00	ELECT	0.47uF	20%	50V
C23	1-126-963-11	ELECT	4.7uF	20%	50V
C24	1-124-443-00	ELECT	100uF	20%	10V
C25	1-162-203-31	CERAMIC	15PF	5%	50V
C26	1-126-961-11	ELECT	2.2uF	20%	50V
C31	1-124-902-00	ELECT	0.47uF	20%	50V
C32	1-124-902-00	ELECT	0.47uF	20%	50V
C33	1-124-903-11	ELECT	1uF	20%	50V
C35	1-162-294-31	CERAMIC	0.001uF	10%	50V
C36	1-162-282-31	CERAMIC	100PF	10%	50V
C39	1-162-294-31	CERAMIC	0.001uF	10%	50V
C40	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< FILTER >			
CF1	1-577-072-11	FILTER, CERAMIC			
CF2	1-760-738-61	FILTER, CERAMIC			
CF3	1-760-738-61	FILTER, CERAMIC			
		< TRIMMER >			
CT1	1-151-696-11	CAP, VAR (FM TRACKING)			
CT2	1-151-696-11	CAP, VAR (FM FREQUENCY COVERAGE)			
CT3	1-151-696-11	CAP, VAR (AM TRACKING)			
CT4	1-151-696-11	CAP, VAR (AM FREQUENCY COVERAGE)			

Ref. No.	Part No.	Description			Remark
		< VARIABLE CAPACITOR >			
CV1	1-151-696-11	CAP, VAR (TUNING)			
CV2	1-151-696-11	CAP, VAR (TUNING)			
CV3	1-151-696-11	CAP, VAR (TUNING)			
CV4	1-151-696-11	CAP, VAR (TUNING)			
		< IC >			
IC1	8-752-050-20	IC CXA1238S			
		< FERRITE BEAD >			
JW6	1-412-911-11	FERRITE	0uH		
		< COIL >			
L1	1-422-317-31	COIL, AIR-CORE (FM TRACKING)			
L2	1-419-132-11	COIL, FM OSC (FM FREQUENCY COVERAGE)			
L3	1-501-646-11	ANTENNA, FERRITE-ROD (MW) (AM TRACKING)			
L4	1-406-040-00	COIL (OSC) (AM FREQUENCY COVERAGE)			
		< TRANSISTOR >			
Q5	8-729-194-57	TRANSISTOR 2SC945-P			
Q6	8-729-194-57	TRANSISTOR 2SC945-P			
		< RESISTOR >			
R2	1-249-429-11	CARBON	10K	5%	1/4W
R3	1-249-421-11	CARBON	2.2K	5%	1/4W
R4	1-249-441-11	CARBON	100K	5%	1/4W
R5	1-249-415-11	CARBON	680	5%	1/4W
R6	1-249-411-11	CARBON	330	5%	1/4W
R7	1-247-815-91	CARBON	220	5%	1/4W
R8	1-249-404-00	CARBON	82	5%	1/4W
R9	1-249-427-11	CARBON	6.8K	5%	1/4W
R10	1-249-427-11	CARBON	6.8K	5%	1/4W
R11	1-247-887-00	CARBON	220K	5%	1/4W
R12	1-249-421-11	CARBON	2.2K	5%	1/4W
R13	1-247-887-00	CARBON	220K	5%	1/4W
R14	1-249-429-11	CARBON	10K	5%	1/4W
R23	1-247-887-00	CARBON	220K	5%	1/4W
R24	1-247-887-00	CARBON	220K	5%	1/4W
		< VARIABLE RESISTOR >			
RT1	1-238-601-11	RES, ADJ, CARBON, 22K (VCO)			
		< SWITCH >			
S1	1-762-789-11	SWITCH, SLIDE (BAND)			
		< TRANSFORMER >			
T1	1-406-952-11	TRANSFORMER, IF (AM IF)			
T2	1-409-944-11	COIL (DET) (FM IF)			

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Personal Audio Division Company

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